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ABSTRACT

Among the 90 papers on topics relating to the consumer are "Academics and Advocates" (Brobeck); "Economic Profile of the Young and Elderly" (Ryscavage); "Estimation of Savings Needs To Adequately Fund Baby Boomers' Retirement" (Burns); "Saving and Dissaving in Retirement" (Hogarth); "Analysis of Effects of Children on Consumption and Savings Decisions over Life Cycle" (Douthitt); "Estimating Demand Relationships between Close Substitutes Using Limited Observations from Marketplace Experiments" (Eastwood); "Degrees of Differences in Consumption of Goods and of Services" (Heinzerling); "Some Thoughts on Career Development for Consumer Affairs Students" (Christner); "Tax Reform, Welfare Reform--Consumer's Stake" (Minarik); "Consumer Protection Theory of Structural Regulation" (Kushman); "Dental Hygienist" (Reveal); "FTC Activities in Structural Health Care Regulation" (Daynard); "Older Consumers and Structural Regulation in Health Care" (Powers); "Analysis Techniques for Qualitative Data" (Hayes); "Achieving Reliability and Validity in Qualitative Research" (Carsky); "Apparel-Shopping Problems of Older Consumer" (Norum); "Imperfect Information and Price-Quality Relationship" (Geistfeld); "Credit Rationing as Constraint on Financial Future of Families" (DeLuca); "College Student Use of Consumer Credit" (Churaman); "Consumer Debt" (Langrehr); "Determinants of Energy Conservation Activities" (Meeks); "Child Support Reform Strategies for Reducing Children's Poverty" (MacDonald); "Spells of Poverty and Gender Differences in Mortality" (Zick); "Assessing Dietary Adequacy in Development of Food and Nutrition Policy" (Jensen); "Estimating Geographic Nutrient Intake Differences from National Data" (Raunikar); "Use of USDA's Food Consumption Data in Development of Food Plans" (Kerr); "Financial Planning Fundamentals for High School Students" (Schiever); "How To Shop for Food" (Friedman); "Patterns in the Use of Recommended Food Buying Practices" (Herrmann); "Consumer Response to Telecommunications Deregulation" (Cude); "Hierarchy of Consumer Participation" (Hyman); "Typology To Measure Impact of Homebased Work on Quality of Family Life" (Carsky); "Child Support and Feminization of Poverty" (Beller); "Time as Direct Source of Utility" (Kolodinsky); "Administrative Attitudes toward College Programs in Financial Planning" (Reichbach); "Subjective Assessment of Financial Well-Being among Farmers" (Winter); "Expanding International Consumer Research" (Thorelli); "Consumer Education" (Dulmes); "Effects of Social Class on Consumer Credit Card Repayment Behavior" (Soberon-Ferrer); "Economic Analysis of IRA Participation" (Chern); "Recent Labor Market Experience of Baby Boom Generation" (Prohofsky); and "Corporation and Consumer" (Fernstrom). A poster session and a panel on the classification of concepts in consumer education are also presented. (YLB)

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PROCEEDINGS

34th Annual Conference
of the
AMERICAN COUNCIL ON CONSUMER INTERESTS

April 6-9, 1988
Chicago, Illinois

Edited by

Vickie L. Hampton
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Austin, Texas

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FROM THE EDITOR

The 34th Annual Conference of the American Council on Consumer Interests brought together professionals from across the nation and from abroad to participate in presentations and discussions relating to the consumer. Again this year the conference had no theme; therefore, a wide variety of papers including issues in consumer research, financial planning, financial services, consumer information, consumers and the mass media, consumer law, consumer safety, and consumerism in other nations were presented. The conference was opened with an outstanding paper by Stephen Brobeck reflecting on the role of consumer researchers in public policy making.

Speakers on the annual conference program were invited to submit camera-ready manuscripts typed according to Proceedings specifications for inclusion in this publication. The cooperation of the presenters and their support staffs have been truly excellent and is greatly appreciated.

The program co-chairs, Rachel Dardis and Richard Ettenson, are to be commended for their efforts which brought together this informative and stimulating program. Appreciation is also extended to the speakers, manuscript reviewers, and the members of the local arrangements committee. Special appreciation is extended to Linde Soderquist and Charlotte Schkade for their technical assistance in the preparation of the Proceedings.

Vickie L. Hampton
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AMERICAN COUNCIL ON CONSUMER INTERESTS
34th Annual Conference
April 6-9, 1988

Chicago, Illinois

Wednesday, April 6, 1988 — **Page Number**

SPECIAL SESSION

A TRIBUTE TO OUR FOUNDERS AND HISTORY OF THE CONSUMER MOVEMENT

Presider: Cynthia Miner, University of Missouri-Columiba

Speaker: Norman E. Silber, Columbia University
"Self Interest and Public Interest: Colston E. Warne and the Roots of the Consumer Movement"

Panel: Gordon Bivens, Iowa State University
Stewart Lee, Geneva College
Marjorie Merchant, University of Massachusetts
Edward Metzen, University of Missouri-Columbia
Lillian Mohr, Florida State University
"Remembering Colston Warne, Ray Price and Our Founders"

Speaker: Richard L.D. Morse — 1
"The Consumer Movement Archives"

Thursday, April 7, 1988

OPENING GENERAL SESSION

Presider: Mel Zelenak, University of Missouri, ACCI President

Welcome: Les Dlabay, Lake Forest College

Comments: Edward Metzen, University of Missouri-Columbia
"A Tribute to Colston E. Warne" — 2

Introduction: Nancy M. Rudd, The Ohio State University

Speaker: Stephen Brobeck, Executive Director, Consumer Federation of America — 3
"Academics and Advocates: A Perspective on The Role of Researchers in Public Policy Making"

CONCURRENT SESSIONS

Invited Session

THE YOUNG - THE ELDERLY: AN ADDRESS TO THE ISSUE OF INTERGENERATIONAL EQUITY

Organizer: Thesia I. Garner, U.S. Bureau of Labor Statistics

Speakers: Paul Ryscavage, U.S. Bureau of the Census — 9
"An Economic Profile of the Young and the Elderly"

Deborah Chollet, Employee Benefit Research Institute — NMS*
"Planning Today for an Uncertain Future: Becoming Old in the 21st Century"

Roger W. Evans, Battelle Human Affairs Research Centers — NMS*
"Intergenerational Equity: Is a Battle Predictive of War?"

Respondent: Elizabeth Forsling Harris, noted freelance speaker on the elderly

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CONSUMER FINANCE 1: CONSUMER SAVING DECISIONS OVER THE LIFE CYCLE

Chair: Ruth E. Berry, University of Manitoba

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Richard Widdows, Purdue University
"An Estimation of Savings Needs to Adequately Fund Baby Boomers' Retirement"

Jeanne M. Hogarth, Cornell University — 19
"Saving and Dissaving in Retirement"

Robin A. Douthitt, University of Wisconsin-Madison — 26
Joanne P. Fedyk, University of Saskatchewan
"Analysis of the Effects of Children on Consumption and Savings Decisions over the Life Cycle"

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"Degrees of Differences in the Consumption of Goods and the Consumption of Services"

William Passero, U.S. Bureau of Labor Statistics — 45
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GRADUATION ALREADY! HOW TO START YOUR CAREER

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Speakers: Irene Williamson, Williamson International — NMS*
"The Role of the Consumer Affairs Professional in Business"

Joyce E. Bryant, Household Financial Services — NMS*
"Job Opportunities, Job Searching Skills"

Anne M. Christner, University of Rhode Island
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Presider: Mel Zelenak, University of Missouri-Columbia, ACCI President

Presenter: Karen P. Goebel, University of Wisconsin
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Recipient: Drew Hyman, Pennsylvania State University

Presenter: Mohamed Abdel-Ghany, University of Alabama
1988 Thesis Award Winner
Recipient: Mavis Ellen Hintz, San Diego State University

Introduction: Roger Swagler, University of Georgia

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Marge Reveal, American Dental Hygienists Association 63
"The Dental Hygenist: Increasing the Awareness of and Access to Quality Oral Health Care"

Matt Daynard, Federal Trade Commission
"FTC Activities in Structural Health Care Regulation" 65A

Pat Powers, American Association of Retired Persons 65C
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"Analysis Techniques for Qualitative Data"

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"Achieving Reliability and Validity in Qualitative Research"

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	Loren V. Geistfeld, The Ohio State University "Imperfect Information and the Price-Quality Relationship"	102
	Robert M. Krughoff, Washington Center for Study of Services "A Local Consumer Information System: The Washington Consumers' Checkbook"	NMS*
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David McMillan, U.S. Bureau of the Census — NMS*
"SIPP: A Longitudinal Survey on Income and Wealth"

Robert B. Avery, Arthur B. Kennickell, Board of Governors of the Federal Reserve System — NMS*
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Speakers: Sherman Hanna, The Ohio State University
Randy Mullis, University of Wisconsin-Madison
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Presider: W. Keith Bryant, Cornell University
1988-89 ACCI President

Comments: John Knapp, Executive Director, National Coalition on Consumer Education

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CONSUMER MOVEMENT ARCHIVES

Richard L. D. Morse, Ph.D.[1]

The Consumer Movement Archives (CMA) at Kansas State University was selected by the Board of Directors of the American Council on Consumer Interests at its November 24, 1988 meeting to be the official repository for the records of ACCI. This thirty-four year collection will be separately identified as the **American Council on Consumer Interests Records** and cataloged along with the other collections donated by national and international leaders and organizations in the consumer movement.

The mission of the archives is to preserve records of people solving their everyday problems through the democratic process. The records highlight the problems, the people who understood them, and the processes that were used. These people, usually called consumer activists, sought remedies by helping others to be less accepting of mediocrity, and to exert their power on businesses and governments to serve the public interest, that is, the consumers' rather than the providers' interests.

The archives provide a rich resource for scholars of the political process: political scientists, sociologists, historians, economists, and other social scientists as well as students of such professions as law, social work, home economics, community planning and public administration.

The records are under the direct supervision of a professional archivist and administered in the Special Collections and University Archives of Farrell Library at KSU. They will be preserved in acid free folders and boxes, stored under proper environmental conditions, and organized and inventoried for access to visiting researchers. Information about the collection will be disseminated through announcements in professional journals, newspaper articles, specially prepared inventories, and national data bases describing holdings at various depositories, including the MicroMARC:amc computer system.

I am pleased that the Dean of Libraries, Dr. Brice Hobrock, recognized the historic significance of the consumers movement. It was only last year that he made the announcement of the establishment of the CMA, and invited others to add their collections to my initial donation.

The response has been gratifying. Its timing seems to have met a need of many consumer leaders who had not wanted to trash their papers, yet were reluctant to part with them to a non-public institution that was not prepared to give them proper care, make them readily accessible to the public, or identify them specifically with the consumer movement. Even before a descriptive brochure was printed, word of the CMA was spread informally and by the COCO and ACCI newsletters. Inquiries from many persons resulted. And specific collections were donated by Marjorie Shields, Louis Meyer, Lee Richardson, Nancy Nolf (Consumer Education Resource Network), and Florence Mason, the "mother" of the consumer movement in Third World nations and recently honored in Madrid by the International Organization of Consumers Unions.

The materials include correspondence, books, memoranda, minutes, speeches, reports, brochures, photographs, periodicals, and tape recordings. Some are well organized, while others, like mine, will take considerable effort to organize and inventory.

A scholarship fund, established in my name by former students, will provide some support for graduate and undergraduate students interested in the consumer movement. One sizable gift has been received to facilitate processing new collections; further contributions will be solicited. The CMA is in the process of establishing an advisory group to provide whatever counsel the archivist needs to collect additional material and assist consumer historians.

In closing, the question of why Kansas took this leadership role can be addressed by pointing out that the state has a long history of populism and respect for free speech. It has been a leader in consumer protection legislation and enforcement of food and drug and child care laws. And, for many years, the administration of KSU permitted its faculty to take controversial public positions which would not have been tolerated on many campuses. The KSU Libraries recognizes the importance of the consumer movement in the nation and the world, and has made a commitment to support the CMA for scholarly research.

The brochure mailed with the March Newsletter to all ACCI members describes the details of the CMA. It should be noted that the consumer movement is not defined; instead, the types of materials and emphases which might qualify for inclusion in the Archives are listed. This leaves for future historians to define the broad scope of consumerism. Its mission is people oriented; its mandate is to serve students in all professions that have a concern for people, not as vendors, but as consumers.

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[1] Professor Emeritus of Family Economics, Trustee of the Family Economics Trust, and Consultant to the Consumer Movement Archives

A Tribute to Colston E. Warne (b. August 20, 1900 d. May 20, 1987)

by Edward J. Metzen

We are gathered in the footprint of a giant. Colston Warne -- whom we honor with the series of lectures at our annual conferences -- left many significant tracks as he journeyed his way through life. He was a person without peer in terms of his many and varied contributions to the consumer movement. He was large in physical stature, but more importantly in his ability to see the big picture and to be visionary in developing responses to significant problems and issues. He was a quiet, soft-spoken person -- shy, almost -- but a powerful force for the causes to which he was committed.

A professor of economics at Amherst College for many years, Colston is best known for the fact that he was a driving force in the founding of Consumers Union and served as its president for 43 years, and the prime mover in the formation of the International Organization of Consumers Unions, which he served as president for the first 10 years of its existence.

We who are gathered at this conference of the American Council on Consumer Interests might well ask ourselves what we would be doing this day had it not been for Colston Warne, for it was from his fertile mind that the idea for formation of a national organization devoted to consumer education and the dissemination of consumer information came forth. His steadfast support of our annual requests for grants from Consumers Union during the first decade and a half was in large measure responsible for the funding which made our continued existence possible until our organization could become self-sustaining. Founded as the Council on Consumer Information, with the purpose of providing the general public with objective information about consumer issues and concerns, the organization evolved into the American Council on Consumer Interests, the professional association we know today. Through all the years and all the developments, the organization enjoyed Colston's avid interest and support. The fact that never once did the financial support from Consumers Union over those many years bring with it any kind of pressure or direction regarding ACCI developments or activities speaks highly of Colston's principles. He cared greatly that we be a significant force in the consumer interest, but the fate of the organization was in our own hands. He shared himself in the affairs of the association. At our business meetings, he cast his vote in quiet fashion, taking the floor to speak only on rare occasions. He graced our conferences with his very presence, shared his wisdom as a speaker when requested to, and enriched the insights of many who were fortunate to be engaged in conversations with him between sessions, at mealtimes, or in late evening dialogues. He was at his best, I think, in a small group situation, expounding on the philosophy of the consumer movement, the basics of some consumer issue, or his visions of potential developments for the future. His verbal reminiscences of the flow of events in the consumer movement were eloquent in terms of both mode of expression and quality of insight, and he could convey the heart and soul of the consumer cause as no one else could.

Despite an extremely busy life, Colston was a family man. His children share remembrances of the challenging, stimulating dinnertime conversations which broadened their horizons. During much of his activity and travel in this country and around the world, his beloved Frances was close by his side.

Colston was, for those who were privileged to know him, a role model in terms of concern for his fellow human beings and for fundamental issues in society, of integrity and high principle, unwavering commitment to the consumer cause, respect for the worth and dignity and rights of each individual, and appreciation of a sound idea regardless of the status of its source. In all of his endeavors, he was characterized by the enviable combination of passionate caring and a calm demeanor.

Colston Warne left a significant legacy, the fruits of which will continue to accrue to current and future generations in this country and around the globe. The world is a better place for his having been here.

Please join me in a movement of silent reflection on the qualities and contributions of Colston Estey Warne.   Thank you.

ACADEMICS AND ADVOCATES: A PERSPECTIVE ON THE ROLE OF CONSUMER RESEARCHERS IN PUBLIC POLICY-MAKING

Stephen Brobeck, Consumer Federation of America

I stand before you this morning with mixed feelings. On the one hand, it is a great honor to be chosen the Colston Warne lecturer. This selection was made by a sister organization to CFA for which I have the greatest respect. It allows me to join a distinguished group of persons who have served the Consumer Movement longer and with greater distinction than I. And I have an opportunity to give a lecture named after that person who, along with Ralph Nader, has made the greatest contribution to consumerism in the history of our nation.

It was with Colston in mind that I selected the topic, "Academics and Advocates: A Perspective on the Role of Consumer Researchers in Public Policy-Making," for he was not only a respected academic, but also an influential advocate on behalf of the consumer interest. Among his many contributions, he helped found the two consumer organizations, ACCI and CFA, with which most academics and advocates, respectively, are affiliated. Moreover, Colston firmly believed that consumer researchers should play an important role in public policy-making.

On the other hand, I confess great feelings of inadequacy in addressing this topic. My understanding of what many of you do is incomplete: My academic background is in social history. I have never formally studied economics, consumer economics, or home economics.

Also, in my present position I have little opportunity to reflect on issues beyond those considered by public policy makers. During the nine-year period that I coordinated Cleveland Consumer Action while holding a full-time appointment at Case Western Reserve University, I thought I worked hard. But these 60 to 70 hour workweeks hardly compare to those in Washington that, while no longer, seem twice as intense and demanding.

Finally, although I've managed to fill a whole filedrawer with speeches on consumer topics, none of these has much relevance to the subject I've selected to address today. So the initial test of my ideas about consumer research and public policy-making will be by the toughest audience imaginable -- several hundred consumer researchers and educators. In the advocacy world, this is akin to trying out a new issue analysis on The MacNeil-Lehrer News Hour.

Nevertheless, despite my lack of qualifications for the task, the subject is so important and relevant to our mutual concerns that I believe it should be addressed. I do so, however, with the knowledge that what I offer is only a perspective, not a definitive analysis, and that if this perspective has any value, it will be more for the questions it raises than for the answers it supplies.

In this lecture, I will attempt to do the following: first, review the current relationship between academics and advocates; second, explain why there should be closer cooperation with greater academic involvement in policy-making; third, suggest a specific role for researchers in this policy-making; and fourth, propose measures that will provide researchers with an enhanced role and greater influence in the public policy arena.

Before undertaking these tasks, however, I should define one term. By consumer advocates, I refer principally to those persons affiliated with nonprofit organizations who seek to influence public policy to the benefit of the consumer interest. In their professional capacities, most corporate consumer representatives, consumer reporters, government officials, and consumer academics have somewhat different goals which, I should hasten to add, also serve the consumer interest.

The present relationship between academics and advocates is, in my view, a good one. It is rooted in our shared commitment to the consumer interest and is reinforced by institutional ties. In my opinion, ACCI has done more to maintain this relationship than has any other institution. Four of the last six Colston Warne lecturers are advocates. Other activists are frequently invited to address sessions at your annual conferences. The "ACCI Newsletter" regularly reports on the activities of national consumer groups and the actions of federal and state legislative and regulatory bodies. The Journal of Consumer Affairs sometimes reports research on public policy issues. Your new journal, Advancing the Consumer Interest, will direct even more attention to these issues, and in fact was created in part to increase communication between academics and advocates. Both goals underlay your 1986 Wingspread conference, the publication of whose papers many of us eagerly await. Finally, there is ACCI's participation, as an organization, in CFA.

CFA's contribution, and that of other consumer advocacy groups, is more modest. The executive director of ACCI serves on the CFA Board. We invite consumer researchers to speak at many of our conferences. At our most recent Consumer Assembly, for example, both Stewart Lee and Charlotte Scott made presentations. Then in June, at our Awards Dinner, Stewart will be recognized for Outstanding Consumer Service, an award usually given to an advocate.

CFA and its state and local affiliates also provide opportunities for consumer researchers and educators to influence public policy. In fact, academics such as Helen Nelson, Currin Shields, Dick Morse, Clinton Warne, Lou Meyer, Father McKuen, and Lee Richardson have founded or led grassroots organizations. Moreover, several of these consumerists helped establish CFA and later, the Conference on Consumer Organizations.

Academics and advocates have also worked closely to support more effective consumer education. In the mid-1970s, both joined to advocate successfully the creation of a federal Office of Consumer Education. Then in the early 1980s, when the existence of this agency was threatened, both groups organized a defense through the Coalition for Consumer Education. This organization, which has always included academics and advocates on its board of directors, continues to support the efforts of consumer educators.

Still, while the relationship between academics and advocates is a good one, it is not that close. There is limited cooperation between the two groups, most of which involves the activity of persons who play both roles. Only a small minority of the members of ACCI participate in consumer advocacy organizations. Well under half of all ACCI members conduct research with important public policy implications. Increasingly, it seems, your research is theoretical, directed towards using mathematical models to understand consumer behavior, rather than employing simpler methods to evaluate the complex relationship of current and proposed public policies to the consumer interest.

Advocates are even more responsible for the lack of cooperation. Few attend ACCI meetings, except as speakers. I am as guilty as most of my colleagues. Most advocates do not look for consumer research, or seek the advice of consumer researchers, in analyzing consumer problems or evaluating public policies.

Consequently, particularly at the national level, consumer researchers have little influence on public policy-making. When advocates need research, we usually do it ourselves or rely on the work of other advocates.

While regrettable, this lack of cooperation between academics and advocates is reinforced by several factors. One is geographical. Academics are spread all over the country, whereas most national advocates are based in Washington, D.C., and most state advocates work in state capitols. It takes time and money for most of us to meet face-to-face. Most of you will use limited travel funds to attend research conferences. Most advocacy groups, including CFA, do not even have out-of-town travel budgets.

A second factor is educational. Most academics are trained in graduate schools, often in economics or consumer economics. Most advocates have graduated from law school. I would suggest that the two educational experiences tend to shape different world views. For academics, at least in theory, knowledge is often an end in itself. Therefore, they are oriented to finding "truth." For lawyers, knowledge is only a means to serving an interest, usually that of one's client. Accordingly, they are oriented towards power.

There are additional differences between those practicing economics and law. To the economist, consumers tend to be rational and autonomous. To the lawyer, they tend to be dependent on the specialized knowledge and skills of the legal profession. More importantly, for many economists, the most important goal is efficiency. For most advocates trained as lawyers, it is equity, or perhaps even the maximization of consumer benefit regardless of any larger social cost.

The most important factor differentiating academics and advocates, however, is occupational. Primary roles differ. For academics, these are teaching and research. For advocates, the principal roles are lobbying or litigation. There are also differences in the extent to which the two groups can specialize. Academics are often able to do so, particularly in their research. In fact, other factors being equal, specialized research is easiest to complete and get published. Most advocates, on the other hand, are generalists. They work on several issues at the same time, and typically are involved in communicating with legislators, talking to the press, building legislative coalitions, activating grassroots networks, or even conducting research.

A third difference between the two groups is their degree of independence. Academics are relatively autonomous. They usually can choose their research topics and often their own courses. Advocates, by contrast, frequently must react to issues created by others, often with little opportunity to thoroughly study their implications for consumers. It is not uncommon for advocates to have one week to prepare testimony on a topic about which they know nothing, or to have only an hour, or no time at all, to review a subject before discussing it with a reporter. Why not follow our first lady's advice and "just say no"? Because we feel that the potential benefit of influencing news coverage on an issue, gaining visibility which can increase our influence, and cultivating a reporter outweigh the potential cost of not getting our analysis and quote exactly right.

These differences create distance between academics and advocates. They also allow the development of critical stereotypes of the other group. Some academics see advocates as relatively uninformed and often careless in developing policy. A number of advocates view academics as so caught up in theory and methodological precision that their research lacks practical relevance.

To academics, I would say that many advocates, particularly those with graduate degrees, such as myself or our research director who has a Ph.D. fromYale, are painfully aware of the limitations of our knowledge, but must act in the face of this uncertainty in order to influence public policy. To my fellow advocates, especially those who have legal training, I would urge them to appreciate more fully the importance of research on the consumer interest and its relation to specific public policies. History is replete with examples of intelligent, well-intentioned advocates, who did not take the time evaluate carefully the social impacts of their proposed policies, imposing net costs on society even when accomplishing their objectives.

There are, however, other aspects of these stereotypes that have greater validity. Some academics believe that advocates are biased against corporations and against conservatives. These biases clearly exist within the advocacy community, and are reinforced by our political experiences. Corporations and conservatives often ignore the consumer interest, even when it is damaged by the policies they support. Over the long run, the interests of corporations and consumers converge. But in the short term, they are frequently opposed, particularly when business pursues profit-maximization strategies.

Both conservatives and consumer advocates should strongly support antitrust enforcement and information disclosures to ensure competitive markets. But the aversion of many conservatives to any marketplace intervention pits them even against advocates who support limited interventions to increase competition and reduce serious longterm health and safety hazards.

Nevertheless, despite some justification for anti-business and anti-conservative biases, advocates must remember that the positions these two groups take are not always anti-consumer or anti-social. We must keep in mind that many policies advocated by business are neutral or beneficial to the consumer interest. Furthermore, we must recognize that corporations and conservatives often correctly point out that the social costs of a proposed consumer policy far outweigh any consumer benefits. Most importantly, we must remember to concentrate on advancing the consumer interest, rather than thwarting the policy objectives of business.

If the principal temptation faced by advocates is ideological, that of academics is professional. There is always a danger that academics will neglect commitments to the pursuit of knowledge or the advancement of the consumer interest, and lapse into careerism -- a preoccupation with the attainment of professional advancement and prestige. Unfortunately, at many institutions these goals can be attained most easily by conducting methodologically sophisticated research, using the latest mathematical models and statistical procedures. I have nothing against these models and procedures. In fact, I've taught quantitative and qualitative methods courses to graduate students, and have used these methods in my own historical research. But a fascination with methodology can obscure important substantive issues and even bias one against research on complex public policy issues where data-sets are incomplete. These issues are usually not susceptible to neat tests.

What I am suggesting then, at the risk of sounding like the minister my mother wanted me to become, is that both advocates and academics rededicate themselves to the lifelong goal of Colston Warne -- serving the consumer interest. For consumer researchers, I would argue, this requires more active involvement in the making of public policy. There are several reasons for doing so.

The first is that there is a great need to evaluate both those marketplace imperfections alleged to harm consumers, and those public interventions intended to correct these imperfections. In all capitalist societies, the following marketplace imperfections exist to some extent: bottlenecks that seriously hinder or prevent competition; predatory marketing practices restricting competition; insufficient consumer information or ability to process information that hinders effective competition; products containing hidden or delayed adverse health or safety impacts; deceptive or unconscionable sales practices, often directed at the least well-informed and lowest income groups; and inadequate marketplace pricing of essential, but rapidly depleting natural resources.

Because of these imperfections, consumers have demanded appropriate public interventions: regulatory bodies like public service commissions to discipline natural monopolies; antitrust statutes and agencies such as the Department of Justice and Federal Trade Commission to curb anti-competitive behavior; information disclosures and consumer education to prepare consumers to make rational consumption decisions; health and safety regulations and agencies like the Consumer Product Safety Commission, Food and Drug Administration, and National Highway Traffic Safety Administration to enforce them; anti-fraud and deception statutes and agencies such as the FTC and state attorney general offices to ensure compliance with them; and increasingly, regulations requiring conservation of scarce resources such as efficiency standards for cars or appliances.

The problem is that these interventions, like the functioning of an unfettered capitalist marketplace, are far from perfect. In some cases, they may go too far, requiring excessive and confusing disclosures, health and safety regulations that impose costs far exceeding benefits, or price caps that restrict the availability of products to the detriment of consumers. In other cases, these interventions may not be sufficient, failing to check growing concentration, the increasing use of chemicals in our food supply, or the thousands of small frauds perpetrated daily on individual consumers.

Because of their training and disinterest, consumer researchers are well-suited to examine these critical public policy issues -- particularly the consumer impact of market imperfections and the public interventions designed to correct them. In doing so, they have the potential to save consumers and our society billions of dollars, to prevent thousands of product-related deaths and millions of injuries and illnesses, and to help ensure fairness in the marketplace.

The second reason that consumer researchers should involve themselves more in public policy-making is that there is ample opportunity to do so. Our democratic society offers unparalleled opportunities to influence public policy at local, state, and federal levels. In last year's Colston Warne lecture, Mike Pertschuk demonstrated that Washington-based advocates can make a difference. I would emphasize that these opportunities exist not only for activists, but also for researchers. The old bromide that knowledge is power is in fact true within the public policy arena. Some legislators may be unduly influenced by campaign contributions and personal ties to special interests, but in general, policy-makers pay attention to research with significant implications for policies under consideration. Dick Morse, who for decades has influenced consumer banking legislation at the state and federal levels, illustrates this truth. So does any success achieved by national advocacy groups, who derive much of their influence from the interest of policy makers and the press in their research and analysis.

Consumer researchers are better able to take advantage of these opportunities to influence public policy than are most other citizens. Most have the freedom to choose research with relevance for public policy. Many can find time to present this research to policy-makers. Some may even realize professional benefits from this research activity. Socially relevant research can enrich courses, increasing student interest and productivity. Bringing this research to the attention of policy-makers, particularly at the state level, could help convince legislators that any funds they allocate to your institution are well spent.

The final reason all of us should rededicate ourselves to serving the consumer interest is that we have an ethical obligation to do so. Certainly this is the case if our morality is based on religious commitments, for nearly all of these require service to our fellow men and women. But this obligation also exists for those whose humanism has a secular basis -- whether rooted in the belief that the practice of humanistic values give significance to life, in the idea that individuals and their children only advance when society does, or simply in the sympathy felt by one person for another, especially a victim. Our society has been learning that greed is not enough, but neither is "doing your own thing." Certainly our primary social obligation is to our family. Yet, we have responsibilities to our community and society as well. Those of us who have the opportunity to discharge these obligations through our professional work are exceedingly fortunate. I would suggest that most consumer researchers can do just this.

So need, opportunity, and morality all justify active involvement of consumer researchers in public policy-making. What should this involvement entail? In brief, I would suggest, conducting socially relevant research and communicating research results to consumer advocates and public policy makers. Relevant research is that which has important implications for current or proposed government policies affecting the consumer interest. Virtually all the research you do has some relation to these policies, but some is much more relevant than others. From my perspective as an advocate, research that has the greatest potential impact treat three subjects: first, business practices impacting consumers -- those affecting product quality, safety, pricing, sales, and payment terms; second, current or proposed public policies of two types -- those proposed by advocates that are intended to humanize these practices, such as information disclosures, health and safety standards, product recalls, antitrust standards, and price controls, and those proposed by business that are intended to rationalize markets, such as uniform national product standards, or to avoid government regulations; third, the consumer impacts of these business practices and public policies -- their effect on health and safety, on consumer costs, on convenience, and on product availability.

As I mentioned earlier, much of the influence of advocates depends on our ability to find, or generate, this kind of research and to communicate it effectively to policy makers. Increasingly, we at CFA have been conducting this research ourselves, and I think it useful to summarize some of our recent studies to illustrate what kind of research we believe to be the most relevant to policy making.

Many of our studies have examined business practices. These include:

> An annual survey of bank fees, conducted with the help of state and local groups, which not only reports distributions of these fees, but also estimates annual consumer expense. These reports have been used by members of Congress to help justify check hold and truth in savings legislation which have passed both houses.
>
> A survey of home equity loans and HEL advertisements. This helped stimulate Congressional interest in HEL protections which have passed the Senate and arelikely to be approved by the House.
>
> An historical analysis of credit card rates compared to other consumer rates, market rates, and government rates. This provided some impetus to the passage of credit card disclosure legislation in both houses.
>
> A survey of prices at check cashing outlets. This has provided support to members of Congress who are proposing mandatory check cashing by federally-regulated banking institutions.
>
> A survey of life insurance sales practices, which demonstrated the reluctance of agents to supply important price information.
>
> Finally, annual analyses of post-divestiture local phone rates. These have encouraged state regulators to restrain future increases, have helped persuade Congressional leaders to pressure the FCC to reduce proposed access charge increases, and have stimulated interest in lifeline proposals.

Other CFA research analyzes proposed or current government policies. We have conducted a series of studies on the impact of railroad deregulation on competition and pricing; a study on the impact of proposed oil import fees on price and supply; an analysis of proposed bank sale of insurance that has been widely used by policy-makers at federal and state levels; and an assessment of the consumer impact of a proposed antitrust exemption for beer wholesalers, which helped justify Senate Judiciary Committee opposition to proposed legislation.

Other research assesses the performance of federal consumer agencies. We have prepared a major report on the performance of the Consumer Product Safety Commission. This document contains reform proposals which were added to legislation in both houses reauthorizing the commission. We have also conducted an analysis of changes in jury awards, which has implications for proposed changes in our civil justice system.

In my review of refereed papers presented at the last three ACCI conference, I found a number relevant to specific public policies. These include 1987 papers by Morse on truth in savings, by Richardson and Grazer on local measured phone service, by Burns on Medigap insurance,by Hadden on product labelling, by Kramer and Penner on food safety attitudes, and by Brown, Crown, and Marshall on attitudes toward fire resistant products; 1986 papers by Zick, Mayer, and Burton on lifeline pricing in banking and telecommunications, by Rudd on nutrition labelling, by Haldeman,Tripple, and Peters on consumer conservation, by Swagler on rent-to-own programs, and by Richardson and Lazar on cable TV; and 1985 papers by Johnson and Fain on adjustable rate loans, by Ursic on Magnuson-Moss, by Dardis and Hersh on motorcycle helmet laws, and by Perch on consumer comprehension of credit insurance, and estate planning.

As well as research on specific topics, several more theoretical papers with important public policy implications have been presented by academics at ACCI conferences. Of special interest to me are Morgan's Colston Warne lecture on the consumer interest in 1985, Mayer's paper on the social impacts of regulation in 1983, and Biven's paper on consumer policy criteria in 1982. What could be especially helpful to advocates and policy makers is application of the methods they propose to specific cases.

The problem, however, is that most of this academic research and analysis has had little impact on the thinking of advocates, let alone policy-makers. There are a couple barriers here.

Much consumer research has failed to address the most pressing public policy issues. In the area of banking, for example, there were many unanswered questions as we developed policy proposals that recently have been incorporated into laws or legislation.

Concerning credit cards: How aware were consumers of rates averaging 18 percent? If they were, why did they so willingly pay them?

Concerning savings: How well understood were all important factors influencing yield and cost of deposit accounts? What kind of disclosures would be effective?

Concerning check holds: Would clear disclosures of hold periods satisfy most consumers, or were check hold limits necessary?

Concerning lifeline banking: Why have low and moderate income households been giving up savings and checking accounts? Would removing specific barriers stop, or reverse, this decline?

Lacking definitive answers to these questions, we were forced to rely on incomplete research, anecdotal evidence, and personal experience to develop policy proposals.

Perhaps the greatest barrier to the use of academic consumer research, however, is the lack of communication between researchers, on the one hand, and advocates and policy-makers, on the other. Academics typically present research to each other at conferences and in scholarly journals. Advocates, by contrast, tend to use studies generated specifically to inform the public policy debate. While they are sometimes biased, this research has the virtue of addressing key policy points at issue.

The critical question then is, how can these barriers be removed? What can be done to facilitate the active involvement of consumer researchers in the public policy process? I would offer a number of specific suggestions. These are intended to help academics identify needed research and disseminate findings to advocates and policy-makers.

There is much that,as an individual, you can do to discover relevant research topics. You can, for example, subscribe to national publications by advocacy groups such as "CFA News" or "Public Citizen," or to newsletters published by state organizations. Also, you can attend conferences sponsored by advocacy organizations. In a typical year, for instance, CFA organizes not only Consumer Assembly, but also single-issue conferences on telecommunications, financial services, electric utilities, and indoor air quality. For each of these conferences, we offer several thousand dollars of travel assistance for which many of you qualify. Furthermore, you can approach consumer groups directly to ask them what research might be useful.

ACCI can also assist its members in the identification of public policy research issues. Already, at annual conferences you hold sessions that consider issues debated by policy-makers. You might also consider a session on public policy research needs featuring presentations by advocates and by policy-makers such as Congressional committee staffers. This session might be strengthened if it were organized by a new ACCI public policy committee, or subcommittee of your existing research committee. Such a group could also take other initiatives to open lines of communication and promote cooperation between academics and advocates. What might be especially welcome to advocates would be any willingness by academics to supervise their students in collecting data related to public policy issues.

What mechanisms can academics employ to report research results to advocates and policy-makers? Since a large number of the latter are unlikely to attend ACCI conferences,Mohammed must travel to the mountain, in this case, meetings of advocates. Even at consumer conferenceswhere you do not have the chance to make formal presentations, there are opportunities during discussion periods, and in individual conversations, to share research results. But I would like to see more academics addressing policy issues at our conferences, so offer to make available to ACCI a session at Consumer Assembly for this purpose. Of even greater significance are conferences like Wingspread. It is my hope that such meetings will be held periodically.

The journal, Advancing the Consumer Interest, also offers promise of facilitating communication between advocates and academics. I congratulate ACCI and editor John Burton for supporting this venture, and only hope there will be many contributions on important public policy issues. This publication could serve as the most important outlet for consumer research with policy implications. Such articles would encourage advocates and policy-makers to read the journal.

A new ACCI public policy committee could also play a role in disseminating research results. It could collect this research and pass it on to advocates and to policy-makers. Or it could offer researchers suggestions about communicating research results.

Unquestionably, the most effective way for academics to affect public policy is for them to participate in advocacy groups. I have been encouraged by the growing participation by academics in CFA policy subcommittees and Annual Meeting. Here there are opportunities to shape the policies that guide CFA lobbyists.

I would also urge you to participate in local or state consumer advocacy organizations. Within these groups, you can make substantial contributions. In most, you will be able to take part in a variety of activities including giving testimony, writing op ed essays, or releasing policy-oriented research to the press. What these groups usually offer, in addition to good advice about influencing the public policy process, is credibility among policy makers. In most cases, your access to policy makers will improve if you present yourself as a member of a consumer group, rather than of an academic institution. But do not try to hide your academic credentials -- they will enhance your credibility.

Earlier, I suggested that there was a great need for consumer research involvement in public policy-making. In closing, I would argue that this need will only grow as the marketplace becomes increasingly complex. New technologies, economic instability, and deregulation are transforming telecommunications, transportation, and financial services into extraordinarily complex, and more variable, products. Advocates need academic research and analysis to understand and develop any public policy responses to these changes. Only ACCI can effectively mobilize such academic support.

Within the advocacy community, CFA pledges its strong support for such efforts, to include institutionalizing mechanisms for giving researchers access to other advocates and to policy-makers. Together, we can help realize one of Colston Warne's visionary goals -- the active cooperation of academics and advocates to serve the consumer interest.

AN ECONOMIC PROFILE OF THE YOUNG AND THE ELDERLY

Paul Ryscavage, U.S. Bureau of the Census

One of the great national concerns of this century has been the economic well-being of the elderly. Beginning with the enactment of Social Security in the 1930s and carrying through to the 1960s and the advent of Medicare, our society has placed the welfare of its oldest members high on its list of priorities. And by and large, it has been successful. Today, a series of programs and policies exist which aid, supplement, or insure the economic health of our senior citizens.

But as is true in any modern and industrialized society, the list of national priorities is a long one, and each competes for attention and, more importantly, the available resources. This competition, in the case of our society, has been heightened by the Federal government's efforts to reduce the national deficit in recent years. Consequently, we frequently see special interest groups vying with one another over whose Federal appropriation should be increased or decreased.

Because the elderly do receive a significant share of public monies, their economic situation is continually under scrutiny. Indeed, in recent years a plethora of studies have been produced focusing on the income trends of the elderly and nonelderly (Radner, 1987, 1988; Grad, 1984; Hurd and Shoven, 1982). In general, these studies have found that the incomes of the elderly have increased relative to those of the nonelderly. These findings take on added significance since in the 1970s and early 1980s, high unemployment, spiraling inflation, and low productivity checked growth in the real incomes of most Americans.

Complaints have been heard that the favorable economic situation of the elderly has occurred at the expense of the younger generation (Longman, 1982). As evidence, attention has been drawn to the disproportionately large Federal government outlays going to a relatively small, elderly population. Furthermore, economists have shown how the younger generation in the recent past has been struggling to secure an economic foothold in society relative to the ease their parents had 25 to 30 years earlier (Levy and Michel, 1985). Although the interest groups of this generation are not as numerous and vocal as those for the older generation, the possibility of generational conflict has emerged.

To provide some perspective on this issue, this paper presents an economic profile of the young and elderly. The paper reaches no conclusions concerning the merits of the generational equity issue. Rather, it fulfills a need for those persons interested in the debate and its various dimensions. Together with the data presented here and with information obtained from other sources, it is hoped that an informed and responsible position can be taken on the topic. The profile begins with a brief overview of the demographics of the young and elderly and then proceeds to a discussion of their labor force, income, net worth, and consumer expenditure characteristics.[1]

WHO ARE WE TALKING ABOUT?

If we define the young and the elderly as persons age 20 to 34 and persons age 65 and over, respectively, we are talking about two segments of our population that are of unequal size. The Census Bureau population estimate of the young in 1986 was 63.6 million and the estimate of the elderly in that year was 29.2 million. In other words, the young are a little over twice as large in number as the elderly.

Another demographic fact about these two groups, which is commonly known, is that while the young consist of roughly equal proportions of men and women, almost 60 percent of the elderly are women. This proportion rises among the older age groups of the elderly and reflects the different mortality rates between the sexes. Racially, there are proportionately more persons of black and other races among the young than is the case for the elderly (16.2 percent vs. 9.9 percent).

Another well-known fact about the elderly, of course, concerns the large proportion of widows and widowers among them. Slightly more than one-third of the elderly in 1986--9.6 million persons--were widowed. Very few of the young are widowed. But one fact that perhaps is not well known is that both groups have roughly the same proportion of persons in them who are married and living with their spouse--50.0 percent for the young and 53.6 percent for the elderly.

Nevertheless, living alone is still a more common experience for the elderly than it is for the young. In 1986, the Census Bureau estimated that 30.4 percent of the persons age 65 and over lived by themselves--and this proportion was 41.3

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[1] Overviews of the elderly population are most likely to be more numerous than overviews of the young, although the young have not been ignored. An example of the former is a special report by the Census Bureau on the Demographic and Socioeconomic Aspects of Aging in the United States (1983). An example of the former is a book by Louise B. Russell, The Baby Boom Generation and the Economy (1982).

percent among women. For young persons, on the other hand, only 8.5 percent lived alone.

One last demographic fact about the young and the elderly relates to their size in the future. As was mentioned above, the young were twice as numerous as the elderly in 1986, but Census Bureau population projections (1984) indicate this situation will change dramatically in the future. By the year 2000 the young population will be only approximately 1 1/2 times as large as the elderly, and by the year 2030, there will be more elderly persons than young (the Census Bureau middle-series projection indicates that in 2030 there will be 55.8 million young persons and 64.6 million elderly). This turnaround reflects, in large part, the aging of the baby-boom generation.

LABOR FORCE ACTIVITY

Significant changes have occurred in the rates of labor force participation for both the elderly and the young in the last 35 years or so. Among the elderly, labor force participation for elderly men declined from roughly 46 percent in 1950 to 16 percent by 1985. The work activity rate for women, however, has remained relatively stable during this period ranging from only about 7 to 11 percent of their civilian noninstitutionalized population. The long-term decline in the participation of older men has been studied extensively (e.g., Rones, 1978; Parsons, 1980). It is generally believed that the reason for the decline has been the growing financial ability of older men to retire. The spread of pension plans, the expansion in Social Security coverage and indexing of benefits, and the expansion of disability coverage, have frequently been mentioned as specific factors.

For the young, the major development has been the rapid growth in labor force participation of young women beginning in the 1960s and continuing up to the present. The participation rate for women age 20 to 24 increased from 46 percent in 1960 to 72 percent in 1985, and for women age 25 to 34 the rate went from 36 to 71 percent over the same period. Participation rates for young men have been relatively stable at fairly high levels--upper 80s to mid 90s--throughout the period. The dramatic change in labor force activity for young women has also been the topic of much analysis (e.g., Cain and Dooley, 1976). A couple of the factors that have been discussed related to these developments have been the slow growth in the real earnings of men in the 1970s and 1980s and the drop in birthrates in the 1960s and 1970s. Of course, many other factors have been mentioned, such as legislation against sex discrimination, the feminist movement, and advances in technologies associated with household work.

With respect to unemployment, in 1987 the rate of unemployment for the young was more than twice as high as the rate for the elderly--7.1 percent vs. 2.5 percent. One researcher (Rones, 1983), however, has pointed out that the situation for the elderly may not be as favorable as it appears because their unemployment rate does not account for "discouraged" workers. Many elderly persons do give up looking for work because they think they can't find any that is suitable for them. The unemployment problems of the young, especially those just entering the labor market, of course, have been the topic of much analysis. Despite rising educational attainment, the lack of significant work experience and job skills has made the transition from school to work a difficult one for many young persons. This is reflected in the jobless rate of 20 to 24 year olds which was almost 10 percent in 1987.

INCOME

Perhaps the one economic indicator that has received the most attention in the generational equity debate has been income. As mentioned earlier, a number of economists have examined the income trends of the elderly and nonelderly. The major source of income statistics they have used has been the income information collected in the income supplement to the March CPS. The income data relate to the "money" incomes of households, families, and persons in the previous year. One limitation of these data is that they exclude the value of certain nonmoney income benefits received in many households, such as food stamps, Medicare, Medicaid, employer-provided health insurance and pension plans, and so forth. These items have become more common in recent years. Another limitation of the income data is that they relate to incomes before taxes. A more rigorous analysis of the income situation of the young and the elderly should take into account their relative tax liabilities.

Table 1 presents the median money income levels of the young and the elderly for selected years since 1950. All of them have been adjusted for inflation and are in terms of 1986 dollars. Before examining trends, it would be useful to look at the levels as they stood in 1986. Young families, in which the householder is between 25 and 34, had the highest income--$26,894.[2] (The median for all families in that year was $29,458.) The income of all elderly families was $19,932 and for very young families, (in which the householder was 18 to 24) it was $15,026. So in terms of families, incomes of the elderly are between the young and very young families. (If income per family member is considered, however, the elderly would have the highest income because their families are the smallest in size.)

With respect to unrelated individuals, or persons living by themselves or with other nonrelatives, the elderly have the lowest income on average. In 1986, the median for the elderly was $7,731,

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[2] The householder is the person in whose name the residence is owned or rented. If the house is owned jointly by a married couple, either the husband or the wife may be the reference person or householder.

Table 1. Median income of families and unrelated individuals who are "young" (householder/individual, age 18 to 34) and "elderly" (householder/individual, age 65 and over)--1950 to 1986 (selected years)
(In 1986 dollars)

Year	Young				Elderly	
	Families		Unrel. indiv.		Families	Unrel. indiv.
	Age 18-24	Age 25-34	Age 18-24	Age 25-34	Age 65 and over	Age 65 and over
1986.............	$15,026	$26,894	$ 9,440	$17,581	$19,932	$7,731
1985.............	15,576	26,224	9,388	17,542	19,531	7,714
1980.............	18,432	27,161	10,275	17,250	17,141	6,781
1975.............	17,909	27,862	9,828	18,304	16,414	6,745
1970.............	19,871	27,822	8,206	19,258	14,268	5,509
1965.............	18,762	24,468	7,701	17,032	12,024	4,684
1960.............	14,861	21,066	6,198	13,380	10,726	3,899
1955.............	12,853	18,406	5,446	10,089	9,524	3,448
1950.............	11,902	15,327	3,790	9,784	8,668	2,942
Percent change:[1]						
1970-86.......	-1.7	-0.2	0.9	-0.6	2.1	2.1
1950-70.......	2.6	3.0	3.9	3.4	2.5	3.2

[1] Compounded annual rate of change.

Source: Bureau of the Census, Series P-60 Current Population Reports (and author's calculations).

but for the very young age 18 to 24 it was $9,440 and for those 25 to 34, $17,581. Further, a higher proportion of the elderly live as unrelated individuals as compared to the young.

As is well known, real income growth in the Nation slowed in the 1970s and early 1980s relative to what happened in the 1950s and 1960s. Table 1 contains real income growth rates for the young and elderly in two periods, 1950 to 1970 and 1970 to 1986. In the earlier period, when all family incomes rose on average by roughly 3.0 percent a year, elderly family income rose somewhat slower than was the case for young families. In the later period, when annual family income growth averaged only 0.3 percent a year, incomes of elderly families continued to rise, but the young's declined. With respect to the elderly, the indexing of Social Security benefits to the Consumer Price Index has been cited as a reason for the growth in their income, while wage stagnation in the 1970s and early 1980s was the cause of the poor performance in incomes of the young (Levy and Michel, 1986). What all this meant, of course, was that the income gap between the elderly and young had narrowed in the 1970 to 1986 period. In 1950 and 1970, the median family income of the elderly was only half as large as for families in which the householder was 25 to 34, but by 1986 it was three-fourths as large.

Radner (1988, 1986) has studied the relationship between the incomes of the "aged and nonaged" over the last 20 years in some detail. He also found, even after adjusting for difference in family and household size, that the income of the elderly had risen faster than the incomes of nonelderly groups. In the most recent period--1979 to 1985--he showed that the closing of the relative income gap occurred because the incomes of the elderly rose between 1979 and 1982 while those of the nonelderly fell--and that between 1982 and 1985 the relationship remained largely unchanged.

Because both the incomes of the young and elderly are below the average for the country, attention is often directed toward the low-income recipients of each group. Almost one-third of the families with householders age 18 to 24 and almost one-third of the unrelated individuals of the same age group had incomes below the poverty level in 1986. Poverty rates among families and individuals in the 25 to 34 year old range were considerably lower--15.2 percent for families and 12.5 percent for unrelated individuals. Among the elderly, the poverty rate is 25.2 percent for unrelated individuals but only 7.0 percent for families.

NET WORTH AND ASSETS

One dimension of economic well-being that is sometimes not examined in analyses such as these is the net worth and asset position of individuals and their households. This dimension is important since it too can influence consumption and savings patterns. Obviously, one would expect the elderly to have accumulated more assets and have a greater net worth, on average, than the young simply because they have lived longer. The elderly, however, are less likely to be able to replace assets once they have been depleted.

As mentioned above, we would expect to find the net worth position of the elderly to be much larger than that of the young--and data from the Census Bureau's Survey of Income and Program and Participation (SIPP) bear this out. In 1984, the median net worth of young households was $5,764 and for the households of the elderly, $60,266. If data for all household age groups had been presented, one would see the median rising with age up to $73,664 for households in which the householder was 55 to 64, and then dropping to the level for elderly households.

One of the largest components of a household's net worth is its equity in its home. According to the SIPP data the median net worth of all households in 1984 was $32,667, but when the equity in the home is excluded median net worth drops to $7,783. Table 2 reveals the impact of this exclusion on the net worth of the young and elderly by monthly income. Clearly, the decline in net worth is greater for the elderly--but still, even after this exclusion, the elderly's net worth, on average, is over six times as great as the young's.

The elderly's net worth position vis-a-vis the young's, however, appears less favorable (at least for some of the elderly) when we compare these group's net worth (excluding home equity) by monthly income.[3] Table 2 shows that for elderly households with monthly incomes of less than $900, net worth after excluding home equity was $3,727; for young households with monthly incomes in the $2,000 to $3,999 range, net worth minus home equity was $5,851. (It was even much higher for young households with incomes of $4,000 or more.) The elderly households in this comparison comprised 43 percent of all elderly households, while the young's made up 38 percent of their total. In other words, many low-income elderly households also have relatively low net worth positions.

Attempting to measure changes in net worth and asset holdings over time is difficult. While a number of attempts have been made to collect such data, their periodicity is uneven. Some researchers, nevertheless, have made comparisons of net worth over time. One group (Avery, et al, 1984) compared estimates from the 1970 Survey of Consumer Finances, the 1977 Consumer Credit Survey, and the 1983 Survey of Consumer Finances. They found that for all families, median net worth, adjusted for inflation, rose by 12 percent between 1970 and 1977 and by 18 percent between 1977 and 1983. The increase between 1977 and 1983 they reported "...reflects the net effects of the economic expansion in the late 1970s--which had a particularly heavy impact on home equity, a large component of consumers' balance sheets--and of the recession in the early 1980s." Although they did not directly discuss the changes in net worth across age groups, they implied that the increase in the number of elderly households may have helped boost the overall increase in real net worth.

CONSUMER EXPENDITURES

The Consumer Expenditure Survey of the Bureau of Labor Statistics (BLS) is the major source of information on consumer expenditures. According to the data from the 1985 Consumer Expenditure Survey, consumption patterns of the elderly and young are quite different. Furthermore, consumption patterns among the elderly differ and these differences have been discussed in detail by others (Harrison, 1986).

Consumption of goods and services among the consumer units with a reference person under 25 was characterized by relatively high proportions of annual expenditures on vehicles and rented living quarters--14.6 percent and 13.3 percent respectively.[4] (See Table 3.) These proportions are smaller for the consumer units with reference persons age 25 to 34 and much higher proportions are expended for one's own dwelling and personal insurance and retirement programs--10.8 percent and 9.5 percent. These latter consumption items are commonly associated with "settling down." By age 65 to 74 the distinguishing characteristics of the consumption pattern has shifted towards more health care (9.1 percent), utilities (9.6 percent), and food (17.2 percent)--the basic necessities of life. And finally, in the most advanced age group, age 75 and over, a large proportion of expenditures are for health care (12.2 percent) and cash contributions to persons outside the consumer unit and charitable organizations (10.7 percent).

Some historical perspective on consumer expenditure patterns of the young and the elderly can be obtained from BLS's Consumer Expenditure Survey for 1972-73. The comparison here is for consumer units in which the reference person was 25 to 34 and 65 and over. For the young, there appeared to be only small changes in the distribution of annual expenditures. Perhaps the most noteworthy was the rise in the proportion of expenditures for transportation--an increase from 19.1 to 21.6 percent. For the elderly taken as a whole, Consumption patterns appear to have shifted somewhat more. Proportionally less was spent on food and shelter-furnishings (excluding utilities) and more went toward transportation and health care costs, perhaps reflecting the increases in their real incomes.

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[3] According to SIPP the median monthly income of households in which the householder was under 35 was $1,596 and for households in which the householder was 65 or over, $1,021.

[4] A consumer unit is similar in definition to a household and reference persons in consumer units are analagous to householders.

Table 2. Median net worth of households that are "young" (householder under 35 years old) and "elderly" (householder 65 years old and over) by monthly income--1984
(Households in thousands)

Groups and net worth	Total	Monthly income			
		Less than $900	$900-1,999	$2,000-3,999	$4,000 or more
YOUNG					
Householder under 35 years old . . .	25,730	6,973	8,916	8,250	1,691
Median net worth	$5,764	$855	$4,686	$15,343	$44,424
Median net worth excluding home equity	$2,966	$626	$2,531	$5,851	$18,158
ELDERLY					
Householder 65 years old and over. .	18,151	7,934	6,672	2,802	743
Median net worth	$60,266	$25,863	$74,775	$162,900	$344,518
Median net worth excluding home equity	$18,790	$3,727	$29,849	$80,327	$212,710

Source: Bureau of the Census, Current Population Reports.

Table 3. Distribution of expenditures of consumer units that are "young" (reference person under 35 years old) and "elderly" (reference person 65 years old and over)--1985

Expenditure	Young		Elderly	
	Less than 25	Age 25-34	Age 65-74	Age 75 and over
Total	100.0	100.0	100.0	100.0
Food	15.1	14.2	17.2	16.4
Alcoholic beverages	2.3	1.6	1.1	0.7
Housing	27.4	33.0	30.6	33.7
Shelter	17.7	20.3	15.5	16.7
Owned dwelling	3.1	10.8	9.9	8.3
Rented dwelling.	13.3	8.5	3.3	7.0
Other	1.3	1.0	2.3	1.4
Utilities.	5.5	6.5	9.6	10.9
Household operation	0.8	2.0	1.7	3.4
Housefurnishings	3.5	4.2	3.8	2.7
Apparel and services	6.0	5.4	4.4	2.9
Transportation	26.7	21.6	18.9	14.4
Vehicles	14.6	10.1	7.4	5.9
Gasoline/oil	5.3	4.6	4.6	3.3
Other vehicle expenses	5.7	5.7	5.4	3.8
Public transportation	1.0	1.2	1.5	1.4
Health care	3.0	3.2	9.1	12.2
Entertainment	5.2	5.5	3.9	2.6
Personal care	0.8	0.7	1.2	1.2
Reading	0.5	0.6	0.8	0.8
Education	0.4	0.9	0.5	0.2
Tobacco	1.0	1.0	1.0	0.6
Miscellaneous.	1.3	1.3	1.7	1.5
Cash contributions	0.8	1.5	4.9	10.7
Personal insurance and pensions	5.8	9.5	4.9	2.1
Life and other insurances	0.4	1.0	1.4	0.7
Retirement, pensions, social security	5.4	8.5	3.5	1.4

Source: Bureau of Labor Statistics, Consumer Expenditure Survey.

SUMMARY AND CONCLUSIONS

Assessing the economic well-being of any group of persons is complex since so many factors must go into the assessment. Not only must one consider the obvious elements, such as the ones we considered here, but others must be factored in as well. For example, taxes have not been considered nor the receipt of noncash benefits. In addition, issues can be raised about the quality of economic life, that is, how adequate the housing is of the young vis-a-vis the elderly. And beyond these issues are the more philosophic questions about interpersonal utiltity comparisons. Does an extra dollar of economic resources have the same impact on the elderly as it does on the young, even after controlling for their many economic differences? Because of these omissions and conceptual matters, it is not a simple matter to answer the question, "Who has fared better, the young or the elderly?"

What we can do, and what we think we have done here, is to lay out, side-by-side, important economic characteristics of the two groups--and compare them. For this comparison, we have found some of the obvious differences and similarities between the young and elderly but also some other findings that may add to our assessment.

The major ones are:

--While some of the elderly still rely on the labor market for their economic suport, labor force activity rates are very low. In contrast, the participation rates for young women continue to advance strongly, and the young men's remain high.

--The young have higher incomes than the elderly, but in recent years the income gap has closed because of the faltering growth rates in the young's incomes and continuing increases in the elderly's.

--Although the net worth of the elderly is much greater than that of the young's, a large proportion of the elderly have net worth below those of the young after home equity is excluded from the comparison.

--In recent years, the consumption pattern of the elderly has shifted slightly towards proportionally larger expenditures for health care and transportation and smaller expenditures for food, while the young's has remained relatively stable.

REFERENCES

Avery, Robert B., Elliehausen, Gregory E., Canner, Glenn B., and Gustafson, Thomas A., "Survey of Consumer Finances, 1983: A Second Report," Federal Reserve Bulletin, December 1984.

Cain, Glen and Dooley, Martin, "Estimation of a model of Labor Supply, Fertility, and Wages of Married Women," Journal of Political Economy, S179-S200, 1976.

Grad, Susan, "Incomes of the Aged and Nonaged, 1950-82," Social Security Bulletin, pp. 3-17, June, 1984.

Harrison, Beth, "Spending Patterns of Older Persons Revealed in Expenditure Survey," Monthly Labor Review, pp. 15-17, October, 1986.

Hurd, Michael and Shoven, John B., "Real Income and Wealth of the Elderly," Papers and Proceedings of the 94th Annual Meeting of the American Economic Association, pp. 314-318, May, 1982.

Levy, Frank and Michel, "The Baby-Boom Bust," Challenge, pp. 33-39 March/ April, 1986

Longman, Phillip, "Taking America to the Cleaners," The Washington Monthly, pp. 24-30, November, 1982.

Parsons, Donald, "The Decline in Male Labor Force Participation," Journal of Political Economy, pp. 117-134, 1980.

Radner, Daniel B., "Money Incomes of Aged and Nonaged Family Units, 1967-84," Social Security Bulletin, pp. 9-28, August, 1987.

__________, "The Wealth of the Aged and Nonaged," ORS Working Paper Series, Number 36, Social Security Administration, January, 1988.

__________, "Shifts in the Aged-Nonaged Income Relationship," ORS Working Paper Series, Number 35, Social Security Administration, January, 1988.

Rones, Philip L., "Older Men--The Choice Between Work and Retirement," Monthly Labor Review, pp. 3-10, November, 1978.

__________, "The Labor Market Problems of Older Workers," Monthly Labor Review, pp. 3-12, May, 1983.

Russell, Louise B., The Baby Boom Generation and the Economy, The Brookings Institution, Washington, D.C., 1982.

U.S. Bureau of the Census, Demographic and Socioeconomic Aspects of Aging in the United States, Current Population Reports, Series P-23, No. 138, August, 1984.

__________, Household Wealth and Asset Ownership: 1984, Current Population Reports, P-70, No. 7, July 1986.

__________, Projection of the Population of the United States, by Age, Sex, and Race: 1983 to 2080, Current Population Reports, Series P-25, No. 952, May, 1984.

AN ESTIMATION OF SAVINGS NEEDS TO ADEQUATELY FUND BABY BOOMERS' RETIREMENT

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Early in the 21st century members of the Baby Boom generation will enter retirement. The life expectancy of these individuals at age 65 is fifteen to twenty years. The large number of people in the boomer age group, coupled with their longevity and current consumption habits, implies that large amounts of funding will be required for retirement in the years 2011-42. The purpose of this paper is to find out whether the diversion of income into retirement funds of the boomer generation is adequate to support consumption patterns based on current lifestyles. Estimates of whether a "retirement gap" exists were made by application of data from the 1983 Survey of Consumer Finances to a framework developed by Duncan, Mitchell and Morgan (1984). Sizable retirement gaps do exist for members of the Baby Boom generation. In many cases, savings rates needed to meet retirement needs exceed current savings rates exhibited by this group.

INTRODUCTION

In 24 years' time (2011) the first of the Baby Boom generation will begin retiring. Based on current projections, if an individual reaches age 65, he has a life expectancy of 15 to 20 years (American Council on Life Insurance, 1987). The questions to be asked here are whether the baby boomers are currently accumulating the funds required for financial security during retirement, and which assumptions can be made to produce realistic information about the amount one needs to save to fund retirement consumption.

Popular studies suggest that the Baby Boom generation is the first generation in recent history to have less economic security than its parents. This may be due to smaller wages and salaries than parents, to difficulties in entering the labor market, or to increased costs of living (Russell, 1982). It could also be due to increased debt loads. This group sent a larger proportion of its members through college than previous groups and consequently incurred large amounts of educational debt (U.S. Bureau of Census, 1985). Yet data also suggest that boomers are consuming at the level of their parents' generation, thanks in part to enhanced short-term credit capabilities (Bureau of Labor Statistics, 1986). The implications for retirement funds accumulations are evident.

At the present time, the boomer generation's members range in age from 24 to 42 years: they are therefore at various stages of retirement planning. The median family income in 1983 for this cohort is $21,018 (Bureau of Labor Statistics, 1986). A comparison of the cohort with its immediate predecessors reveals that it has married later and had fewer children, born later in life (National Center for Health Statistics, 1984). It should be mentioned that a significant majority of boomer families (67 percent) have two earners, and many are able to enjoy relatively high consumption standards.

The large number of people in the Baby Boomer cohort, coupled with their longevity and current consumption habits, implies that large amounts of funding are required for retirement in the years 2011-2042. The group is now beginning the stage of its life cycle when it should be planning for retirement.

The study has important ramifications for those concerned with retirement planning. There is an urgent need for any data on retirement plans of boomers in view of the forecasts of impending doom of the Social Security system, the increased reliance on Social Security as a major part of one's retirement income, and the concern that as the boomer group begins to receive income from its retirement programs, asset levels in private industry and the banking system could be severely depleted.

From a financial planning point of view, if there is a retirement gap, it is important to know its extent. It is also important to use a model which accurately assesses one's financial standing at the point of analysis. Planners can then assess what adjustments would need to be made to change either current savings or future consumption, to close the gap. It would also be of interest to know if the retirement gap is different for people with different income levels.

METHODS

Estimates of whether a retirement gap exists among the boomer age group were made by application of data from the 1983 Survey of Consumer Finances to a framework developed by Duncan, Mitchell, and Morgan (1984).[1] The Duncan, Mitchell, and Morgan (henceforth DMM) model is essentially an application of the lifetime income approach to retirement planning. In the lifetime income model, a portion of current income is set aside for retirement during the income earning years, to accumulate a stock of assets which becomes the fund out of which consumption will be financed in retirement. Under this model, consumption is evened out over the person's expected lifetime, with the idea of leaving a zero asset stock at the termination of one's life.

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Model

The first step in estimating the retirement gap involved calculating the assets available to an individual or family at retirement. Following DMM, the assets available were:

$$A = (SS * R) + (P * R) + HE + OS \tag{1}$$

where SS was annual Social Security benefit; P was annual pension benefits; R was expected years of retirement; HE was housing equity, and OS was other savings.

In a second step, assets needed for retirement were calculated. The DMM method required the nomination of a percentage of annual income that would provide for an even stream of consumption throughout life. Needs were:

$$N = kY * R \tag{2}$$

where Y was income, and k was a constant representing the desired portion of current income for consumption purposes. Once supply and demand for assets for retirement had been calculated, the retirement gap followed:

$$D = N - A \tag{3}$$

If the gap, or deficiency, was greater than zero, then additional annual savings were needed to fill the gap by the time of retirement. The annual requirement was:

$$S = D/W \tag{4}$$

where W was the years to retirement. These savings could be figured as a percentage of income:

$$SR = S/Y \tag{5}$$

As DMM pointed out, the requirement of additional savings would reduce current consumption below its kY level. To even out consumption over the lifetime, the following adjustment was performed:

$$ASR = SR/(1 + SR) \tag{6}$$

and ASR was termed the adjusted savings ratio. The adjusted savings ratios that result from using various assumptions in the model became the dependent variables in further analysis.

Data

The 1983 Survey of Consumer Finances contained data of the kind necessary to estimate whether a retirement gap does exist among boomers, and if so, to calculate what additional rate of savings, ASR, would be required to fill the gap and even out consumption over the lifetime. The unit of analysis was the family, defined as anyone living in the same household.

Four asset types constituted assets available for retirement. The supply of private pensions at retirement was the current value of respondent's and spouse's employer pension plans plus the value of IRA and Keogh pension plans. Housing equity was the current market value of the house less outstanding mortgage balance and home improvement loans. Other savings included the value of savings accounts, money market and mutual funds, stocks, bonds, and real property owned as an investment. The Social Security part of supply of retirement funds presents a problem since it was not included in survey data. Assuming that household expectations for Social Security entitlement are based on the current system, a proxy for Social Security was projected by taking the median monthly benefit awarded in 1983 for a retiree in each of three groups. The three groups were delineated based on the distribution of Social Security entitlements. These figures were then multiplied by 12 to give annual benefit, and the annual benefit was multiplied by the number of expected years of retirement, R. If the respondent was married, spouse's entitlement was included in family benefit.

On the asset needs side, two levels of k were used, namely .75, the level adopted by DMM, and .80, the average ratio of total expenditures to income before tax of the boomers in 1983, the sample year (U.S. Bureau of Labor Statistics). Income was total family income.

A modified DMM model was formulated because two problems were seen with the straightforward estimation of retirement gap using the data described above. A new figure, termed financial net worth, was calculated by netting out from other savings existing short-term debts. This term was substituted for other savings in the assets available calculation. Second, it was recognized by DMM that income can vary over the life cycle. Accordingly, an estimate of permanent income was substituted for current income in the asset needs equation (Widdows and Johnson, 1986).

The modifications described were incorporated into a supplementary estimate of retirement gap, termed DMM*. Both the DMM and DMM* estimates were carried out with 0 and 3 percent appreciation of assets available until retirement, with R set at 20 years, and with k equal to .75 and .80.

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[1] The Survey of Consumer Finance was conducted by the Survey Research Center of the University of Michigan. It contains financial data and attitudes toward credit for a random sample of over 3,000 families/households.

In 1983, the Baby Boom generation was in the age group 19-37. It was felt that it would be hard to generalize the experience of this entire age group because many of its members would either still be in school in 1983, or would only just have entered the workforce and may not yet have geared up for retirement planning. There exists, however, an apt breaking point in the group because the population surge peaked about 1956. Those born between 1946 and 1956, often called the early boomers, would have been in the age range 27-37 in 1983. This group comprised the study group: any family whose household head or spouse was in this age group qualified for admission. In addition, a permanent income figure must have resulted from the earlier regression to be admitted into the sample. Results will be presented in the form of averages for the early boomer group.

RESULTS

Table 1 gives the retirement gap in 1983 dollars. To provide further information on retirement gaps, boomers were distinguished by age and income groups. Group 1 members had incomes less than one-third of the Social Security taxable income distribution ($11,900). Group two included those with income between one-third and two-thirds of the Social Security taxable income ($23,800). Those in group three had incomes above $23,801.

Sizable retirement gaps were forecast under all models. For those in the highest income group the greatest gaps were estimated using the DMM model. Under the DMM model, smaller gaps were forecast for those in the middle and low income groups. If retirement assets were not assumed to grow at a real rate of interest, the resulting retirement gaps were larger.

Those in the lower income group had negative retirement gaps. This anamoly resulted from the model. Social Security benefits were assumed for all respondents. In many cases, the Social Security benefit would replace a large portion of the low income person's salary. Therefore, low income persons may not experience a retirement gap.[2]

Larger gaps resulted when an 80% replacement rate was assumed. There were small patterns of change in retirement gaps as age increased. Middle income groups had larger retirement gaps than upper income groups on average. If

Table 1. Mean Retirement Gaps In Dollars (Replacement Rate, Real Growth Rate on Other Savings or Net Worth) for DMM and DMM* by Baby Boomer and Income Groups.

	Late Boomers[a]			Early Boomers[b]		
	Income			Income		
Method	1[c]	2[d]	3[e]	1	2	3
	n=33	n=44	n=85	n=25	n=42	n=128
(75%, 0%)						
DMM	10,702	222,937	488,005	-20,214	235,858	502,186
DMM*	294,861	303,414	311,165	327,137	354,514	325,562
(80%, 0%)						
DMM	14,168	240,594	526,962	-17,499	254,582	545,240
DMM*	317,206	326,358	338,198	352,981	381,092	356,656
(75%, 3%)						
DMM	-49,206	169,805	349,491	-96,251	190,497	323,874
DMM*	236,669	252,479	176,171	251,734	310,337	151,332
(80%, 3%)						
DMM	-45,740	187,466	388,448	-93,536	209,221	366,928
DMM*	259,014	275,423	203,204	277,577	336,915	182,427

[a] Late boomers are respondents between 27 and 32 years of age.

[b] Early boomers are respondents between 33 and 37 years of age.

[c] Annual income less than $11,900.

[d] Annual income between $11,901 and $23,800.

[e] Annual income greater than $23,801.

Table 2. Mean Adjusted Savings Ratios (Replacement Rate, Real Growth Rate on Other Savings or Net Worth) for DMM and DMM* by Baby Boomer and Income Groups.

	Late Boomers			Early Boomers		
	Income			Income		
Method	1	2	3	1	2	3
	n=33	n=44	n=85	n=25	n=42	n=128
(75%, 0%)						
DMM (.34)	.65	.26	.26	-.13	.29	.27
DMM* (.25)	.28	.27	.24	.30	.31	.20
(80%, 0%)						
DMM (.33)	.65	.26	.25	-.11	.29	.27
DMM* (.27)	.29	.29	.26	.31	.32	.23
(75%, 3%)						
DMM (.52)	-.30	.21	.15	-1.13	.24	.51
DMM* (.16)	.24	.23	.06	.24	.28	.12
(80%, 3%)						
DMM (.12)	-.29	.22	.17	-1.06	.26	.22
DMM* (.19)	.25	.25	.09	.26	.29	.15

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[2] The low income respondents could have a high percentage of their current income replaced by Social Security. But, they must be eligible for the program which requires forty calendar quarters of paid employment over a lifetime. If they qualify, members of this group would have to rely less on private savings and employer related pension plans to replace their income. However, this does not guarantee a retirement income above poverty level.

retirement assets were not assumed to grow at a real rate of interest, the resulting retirement gaps were larger.

Table 2 shows the adjusted savings ratios required to fill the retirement gap by individuals in various age and income groups. Using the DMM* model, the groups as a whole would anticipate a positive adjusted savings ratio. In other words, the average family unit needed to increase its savings plans to supplement the income that will be provided by pension plans, and Social Security benefits.

In almost all cases, as anticipated, families would have to save at a higher rate if they wished to replace 80% of their current income instead of having a level of living at 75% of their current level.

DISCUSSION

Intuitively, the results of the analyses makes sense. As one ages, one's accumulation period decreases relative to the retirement period and one who has not saved for retirement will experience a larger retirement gap and adjusted savings ratios increase. The earlier one starts to plan and save for retirement the lower the retirement gap. Therefore, the adjusted savings ratios for younger respondents are less than those of older respondents. As one's replacement rate increases (the percentage of retirement income desired relative to current income), the adjusted savings ratio increases. The DMM* model results suggested lower adjusted savings ratios because the model took into account future income increases while decreasing the savings amount by the debt load of the respondents. In the case of the average higher income person, future income increases offset the short term debt. However, on average, middle income consumers' short term debt load was greater than expected future income increases.

The data suggested that lower income respondents on average had negative retirement gaps and negative adjusted savings ratios. These rates may be because the median Social Security benefit was used in the analysis and thus, was equal for all respondents in the income category, while the retirement gap was estimated using current, below poverty income levels. While Social Security benefits replace a larger portion of a low income person's income than that of a person in the higher income group it does have a ceiling on the percentage of income it will replace.

The results suggested that middle and upper income respondents had similar adjusted savings ratios. This may be because the middle income consumers are more cautious in their consumption habits.

Those in higher income groups had relatively large adjusted savings ratios when using the DMM model or when assuming 0% growth rates on assets or net worth. It is harder to replace high income from standard retirement income sources. The higher the income, the less will Social Security replace income. Pension plan benefits are often determined based on one's income. Those with higher incomes may need a lower percentage of that income during retirement - replacement rates are often lower for people in the higher income group - in which case current savings needs are not so pressing.

Some of the adjusted savings ratios are worrisome. It would be difficult for anyone to save 10% or more of current income just for retirement. And yet, the results suggest that this should be done by many segments of the sample. However, it appears that the DMM* model does suggest lower savings ratios than the DMM model. The DMM* model should be more realistic because it accounts for increases in future income.

As the Baby Boom generation closes in on retirement, the funding of retirement for this group should be of increasing concern to families as well as educators, researchers and economists. This research suggests that earlier planning for retirement is necessary to avoid lowering retirement expectations, postponing retirement, or having to save an unusually high amount of current income in the later years of employment.

REFERENCES

American Council on Life Insurance. (1987). Life Insurance Fact Book.

Bureau of Labor Statistics. (1986). Consumer Expenditure Survey: Interview Survey, 1982-83. U.S. Department of Labor.

Duncan, Greg, Olivia S. Mitchell and James N. Morgan. (1984). A framework for setting retirement savings goals. Journal of Consumer Affairs, 18(1):22-46.

National Center for Health Statistics. (1984). Vital Statistics of the United States, annual.

Russell, Louise B. (1982). The Baby Boom Generation and the Economy. Washington, D.C.: Brookings Institution.

U. S. Bureau of the Census. (1985). Current Population Reports, Series P-20.

Widdows, Richard and Dixie P. Johnson. (1986). Emergency fund holdings of U.S. households: Evidence from a partial equilibrium analysis of survey data. Proceedings of the 32nd Annual Conference, American Council on Consumer Interests, 139-43.

SAVING AND DISSAVING IN RETIREMENT

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ABSTRACT

This paper explores patterns of saving and dissaving during the first 8 years of retirement, using the Longitudinal Retirement History Study. Nearly half the sample (46 percent) had higher financial asset holding after 8 years of retirement, contrary to life cycle theory predictions. over half the sample dissaved during retirement, nearly one-fifth dissaved at rates faster than predicted by actuarial life expectancies. Factors associated with faster-than-expected dissavings were income, initial value of financial assets, marital status, living in an urban area, and education.

The life cycle hypothesis posits that households will save during peak earning years and then dissave during retirement years. It follows that households would annuitize assets at retirement and draw down their assets in proportion to their life expectancy.

While this approach is intuitively appealing, it has been shown that households do not behave exactly according to this hypothesis. Many researchers found that although dissaving did occur, it was at a lower level than expected, given the life cycle hypothesis predictions.

Dissaving in retirement does not necessarily represent "bad" financial management. However, dissaving at rates which cannot support the household for its expected lifetime is a dangerous practice. In order to determine appropriate educational programs and public policies, the purposes of this study were to explore determinants of saving and dissaving with regard to financial assets in retirement and the factors affecting disproportionate dissavings, relative to life expectancy.

PREVIOUS WORK

Early studies of the life cycle hypothesis were conducted by Ando and Modigliani (1963), Lydall (1955), and Sharrocks (1975). Other studies have been conducted on the asset accumulation of persons prior to retirement, the "savings" portion of the life cycle. Research by Hemming (1977), Munnell (1976), and Sobol (1979) are representative works in this area. Recently, much work has been done on the dissavings side of the life cycle. Empirical evidence using "macro" data (i.e. data aggregated at the national level) shows some support for this dissaving-at-retirement hypothesis (Davies 1981; Mirer 1980), albeit at low levels.

Using net worth as a dependent variable, Davies found persons aged 65 to 85 dissaved at a rate of 2.9 to 3.7 percent per year, a rate significantly lower than the rate of 7 to 9 percent predicted by the life cycle hypothesis (Davies, 1981). He indicated that uncertainty about life expectancy was a major factor in the difference between the expected and actual dissaving rates. However, his findings were based on cross-sectional data and it may not be appropriate to infer the behavior of one cohort from the behavior of another.

Similarly, Mirer (1980) found a median dissavings rate of 1.2 percent, using the saving/wealth ratio as the dependent variable and cross sectional data. He also found that households with lower levels of wealth and income had greater dissavings than those with higher wealth and income. Mirer did not include present values of Social Security and pension benefits in his wealth measure, thus his estimates may have an upward bias.

Kotlikoff, Spivak and Summers (1982) studied the ratio of consumption during old age to lifetime consumption as a measure of the adequacy of lifetime savings using Retirement History Study data. Their results indicate that over 90 percent of married couples can afford old age consumption levels of at least 80 percent of their lifetime consumption level, 85 percent of couples could afford to purchase a larger annuity in their old age than they could at age 30, and that 73 percent of couples could afford to consume at a higher level than their lifetime consumption level, but only until age 88. Further, they found the determinants of the ratio between the two consumption streams to be a function of age, education, race, home ownership, Social Security (the ratio of Social Security to the present value of lifetime income resources), pensions (a similar present value ratio), future value of earnings, and lifetime income resources interacted with Social Security. They conclude that there is no evidence of under-saving among the elderly. However, they include the present value of Social Security benefits as part of the savings portfolio of the elderly. And while this may be an appropriate measure for this particular cohort, it may not be an appropriate measure to use with future cohorts.

Hammermesh (1982) examined the effects of life expectancy on the timing of retirement and consumption during retirement. Life cycle theory posits that persons will consume less and work more if they expect to life longer. However, he

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found that increased longevity had not been met by spending cuts which would enable people to maintain their real consumption over longer lifetimes. If such is the case, then asset decumulation should take place at a more rapid rate as a person ages.

Bernheim (1987) used the Longitudinal Retirement History Study data collected from 1969 to 1979 to explore bequeathable wealth. He determined that wealth declined at rates of 3 to 4 percent per year for single persons and at rates of about 1 to 2 percent for married couples. He concluded that retirement aged individuals and couples did not dissave any significant fraction of their total resources. However, he included housing in the wealth measure. While this is a bequeathable asset, it is not an asset retirees usually manage in the same sense that they manage financial assets. Also, during the time of data collection, real estate values escalated and thus the low rates of wealth decline in part reflect higher housing values.

Hogarth (1987) explored changes among assets during retirement. She determined that changes in other assets and socio-economic factors affected the difference over time in a given asset. While she explored changes in total financial assets, she did not focus on whether these changes were positive or negative, nor the relative magnitude of these changes.

In summary, there is evidence that people dissave during retirement although levels of dissaving appear to be low. However, few researchers have explored the factors affecting dissavings and none have considered factors associated with disproportionate dissavings.

MODEL

The model posited for this study follows from that used by Hogarth (1987) to study determinants of changes in assets. Savings or dissavings is expected to be a function of the initial level of financial assets at retirement and a set of socioeconomic variables which are likely to affect asset use:

Save - f(A_t, Z)

where

Save - 1, if the sum of financial assets in t+n are greater than or equal to the sum of financial assets in t

A_t - initial value of financial assets in t

Z - a vector of socioeconomic variables, measured at t+n.

The focus of this study is on financial assets (bonds, stocks, cash balances in checking and savings accounts, etc.) over which the household has some control and can manage to provide interest and/or dividend income. It is the case that owner occupied housing represents the largest asset of most retired households, but liquidity and ability to "manage" the house as an asset are problematic. Therefore, only financial assets will be considered.

For this study, t is 1971 and t+n is 1979. The specific probit model to be tested is:

Model 1

Prob (Save) - (A_t, Income, Resources, House, MS, Widow, Health, Urban, Education, Age, Sex, Race, Lambda)

where

Save - 1 if sum of holdings in savings bonds, stocks and other bonds, checking accounts, savings accounts, and cash value of life insurance in 1979 is greater than or equal to the sum of those holdings in 1971

A_t - sum of initial values of savings bonds, stocks and other bonds, balances in checking accounts, balances in savings accounts, and cash value of life insurance policies in t

Income - income in 1979 from earnings; railroad retirement; military, government and employer pensions, Social Security, SSI; Public assistance; disability benefits from Social Security and others; survivor's benefits; black lung; interest

Resources - estimated amount of accumulated financial resources at retirement (estimated by respondents)

House - change in the market value of the house from 1971 to 1979

MS - Marital status (1 - married)

Widow - change in marital status from married to widowed during the time of the study (1-widowed)

Health - perception of health compared to others of same age; 1 - health is better or the same as others

Urban 1 - lives in urban area

Education - number of years of schooling completed

Age - age in 1979

Sex 1 - male

Race 1 - white

Lambda - correction factor to account for probability of survival in the sample from t to t+n.

The above model will estimate the probability of saving/dissaving during the first eight years of retirement. As indicated, dissaving may not be a threat to a household's economic security and stability if it is in proportion to life expectancy. Therefore, an OLS model was posited in which the dependent variable was the difference between actual value of financial assets in t+n and the expected value of financial assets in t+n if a household were to annuitize assets and spend them down in proportion to remaining life expectancy:

Model 2

Difference - g(A_t, Z)

where

Difference - actual value of total financial assets in 1979 minus expected value of financial assets in 1979

A_t, Z - as described above.

Finally, it was of interest to know what factors differentiate severe dissavers (i.e. those spending down assets at a rate fasted than expected) from others. Consequently, a probit model was estimated to determine the factors affecting dissaving at rates higher than expected, given a household's life expectancy:

Model 3

Prob (Severe) - h(A_t, Z)
where
Severe - 1 if difference variable is less than 0
A_t, Z - as described above.

DATA AND VARIABLES

The sample for this study was drawn for the Social Security Administration's Longitudinal Retirement History Surveys (LRHS) from 1969 to 1979. The LRHS included men and single, widowed, divorced or separated women who were ages 58 to 63 in 1969; there were 11,153 respondents.

Respondents who were working in 1969 but who reported themselves retired in 1971 were included in this study. This controlled the length of retirement and permitted some evaluation of preretirement data. The potential age range in 1971 was 60 to 65. Data from 1979 were used to determine savings or dissavings during retirement; respondents ages in 1979 ranged from 68 to 73. Because data from both time periods was needed, only respondents with "complete" data from 1969 through 1979 were included; the final sample contained 701 respondents.

Of necessity, this is a study of survivors. Since the LRHS contains information from widows of respondent males, there is some control for married couples. No such control exists for single persons, however. In an attempt to control for this sample selection bias problem, a probit equation estimating survivorship was estimated on the 1000 cases with data in 1971.[1] The Mills ratio (Heckman's lambda) from this analysis was then used as an independent variable in the models. Significant coefficients on this "lambda" variable would be an indication of bias problems created by factors associated with survivorship.

Expected values of financial assets in 1979 were calculated by estimating the household's life expectancy, based on age of head, using actuarial tables. Life expectancy was then used in creating an annuity factor and applying this annuity factor to the value of financial assets in 1971. The difference between the actual value of financial assets in 1979 and the calculated expected value became the "difference" variable. For example, if a household head was 62 in 1971, his life expectancy would be about 21 years (actuarial values based on age and sex were used to determine life expectancy). By 1979, the household should have spent down or dissaved 8/21sts (38 percent) of their financial assets if they were annuitizing them, leaving 13/21sts (62 percent) of the original amount in 1971. The expected value of the assets (in the example, .62 * financial assets in 1971) was then compared to the reported value in 1979 to determine if dissavings had occurred at rates slower or faster than expected.

In Model 2, this difference variable was used as a continuous variable to explore factors associated with dissaving at disproportional rates. In Model 3, the difference variable was a categorical variable, taking on a value of 1 if the difference variable was negative (i.e. if the actual value in 1979 was lower than the expected value in 1979, an indication of severe dissaving).

RESULTS

The results of the probit analysis of Model 1 are presented in Table 1 along with the means and proportions of the independent variables. Nearly half (46 percent) of the sample had higher financial asset holdings in 1979 than in 1971, and thus are defined as "savers."

The initial value of assets held, value of owned housing, marital status, becoming widowed, living in an urban area and education were significant determinants of the probability of saving during retirement. Because probit coefficients are not easily interpreted, the marginal effects of each variable were calculated and are presented in Table 1.

Among the significant variables, a higher initial value of assets was associated with a reduced probability of savings. This is somewhat as expected, since households may purposely built up assets prior to retirement in anticipation of withdrawing and spending down these assets. Higher housing values were associated with increased probabilities of saving, as were being married, becoming widowed, living in an urban area, and having more years of schooling.

It is important to note that the marginal changes in the probability of savings are quite small; for example a $1000 increase in the initial value of assets would decrease the probability of saving by only .002. The largest marginal effect seems to be for those who are married.

Regression and probit analysis results for Models 2 and 3 are presented in Table 2. The average value of financial assets in 1979 was $25,862. The average expected value of these assets, assuming respondents annuitized their financial assets and dissaved some amount annually, was $14,438. The average difference was $10,966; the fact that this is a positive amount indicates that on average actual values in 1979 were higher than expected values. However, nearly one-fifth (about 19 percent) of the sample dissaved at rates faster than predicted by the life cycle hypothesis.

Table 1
Model 1: Probability of Saving During Retirement
(*t*-values in parens)

Variable	Mean/Prop	B_i(probit)	Marginal Effect
Income	8574.64	.0000275 (1.86)	.00001
Resources	14317.55	.00000104 (.53)	.0000004
Initial Value	25375.04	-.0000076 (3.55)	-.000002
House	14231.83	.000014 (4.02)	.000005
MS	.76	.7599 (2.55)	.056
Widow	.22	-.4411 (2.63)	.036
Health	.69	-.1510 (1.06)	-.004
Urban	.58	-.8971 (6.47)	.002
Education	10.06	.0437 (2.03)	.016
Age	71.28	.0557 (1.27)	.021
Sex	.86	.1596 (.50)	.007
Race	.95	-.6348 (1.92)	.004
Lambda	.48	-1.6214 (1.52)	-.624
Constant		-3.3911 (1.08)	
Save = 1	.46		
N	471		
Log likelihood ratio *-2	142.916		
P(Save), at means/mode	.35		

Table 2
Models 2 and 3: Dissaving in Proportion to Life Expectancy
(*t*-values in parens)

Variable	Mean/Prop.	B_i OLS	Bi(probit)	Marginal Effect
Income	8574.64	1.447	-.00008	-.00003
		(5.24)	(4.10)	
Resources	14317.55	.069	-.000003	-.000001
		(1.72)	(1.24)	
Initial value	25375.04	.135	.00001	.000003
		(3.01)	(5.12)	
House	14231.83	.056	.000002	.0000007
		(1.12)	(.68)	
MS	.76	4194.569	-.896	-.052
		(.76)	(2.93)	
Widow	.22	-200.862	-.033	.003
		(.06)	(.16)	
Health	.69	784.315	.014	.001
		(.28)	(.08)	
Urban	.58	-9275.425	.810	.067
		(3.49)	(4.66)	
Education	10.06	905.866	-.048	-.018
		(2.18)	(1.97)	
Age	71.28	613.924	-.064	-.024
		(.72)	(1.26)	
Sex	.86	-2409.702	.218	.020
		(.43)	(.77)	
Race	.95	2568.381	-.161	-.014
		(.43)	(.47)	
Lambda	.48	-19786.062	.323	.124
		(.96)	(.26)	
Constant		-45958.71	4.418	
		(.75)	(1.19)	
Actual value of financial assets in 1979	25862.40			
Expected value of financial assets in 1979	14438.80			
Difference	10966.80			
Severe	.185			
N	471			
R^2/Log likelihood * -2		.29	97.121	
Prob(severe), at means/mode	.398			

Turning first to the OLS regression results, income, initial value of assets and education were positively associated with the difference variable, while living in an urban area was negatively associated with the difference variable. Again, many of these effects were quite small; a $1 increase in income was associated with a $1.45 increase in the difference between actual and expected values and a $1 increase in the initial value of assets was associated with a $.13 increase in the difference variable. Living in an urban area appears to be quite costly for retirees, as the difference between actual and expected values was smaller than the difference for non-urban residents.

A slightly different set of variables achieved significance in the probit analysis of those who experienced severe dissavings (defined as dissaving at a rate faster then expected actuarially). Income, initial value of assets, marital status, and living in an urban area were all significant determinants of the probability of severe dissavings.

Again, marginal effects were calculated and are presented in Table 2. An increase in income was associated with a decrease in the probability of experiencing severe dissaving, as was being married. Higher initial values of assets and living in an urban area were associated with increased probabilities of severe dissaving. This finding with respect to initial values of assets is not as expected, although the increase in probability is quite small. Most of the other marginal affects are quite small; for example, a $1,000 per year increase in retirement income would decrease the probability of severe dissavings by .03.

DISCUSSION

It is important to note that this study focused on saving and dissaving behaviors during the first 8 years of retirement; since life expectancies ranged from 17 to 26 years, the first 8 years may not provide enough evidence to capture all the factors affecting saving/dissaving behaviors. Also, there are likely cohort effects with this sample which may not make these results generalizable to future generations of retirees.

Nearly half of the retired households in this study continued to save and build assets in retirement. It would be interesting to know why this was the case. Keeping in mind that this study covered the first eight years of retirement, households may have continued to save in response to uncertainty regarding future health expenses and longevity. Given that this cohort was in their 20s during the 1930s Depression, the value and importance of the "nestegg" and of savings may be quite high and old habits die hard. It would be interesting to know if these households experienced any life style or level of living changes in order to maintain some savings.

On the other hand, nearly one-fifth of the sample were dissaving at rates that could not be sustained during their expected lifetimes. Again, the question is "Why?" Health was not a significant determinant of severe dissaving, nor was becoming widowed. One wonders what will happen to these households if they do not change their rate of resource depletion.

The significant coefficient for income has some implications for consumer educators. If retired households could increase the income generated by their assets, there is less likelihood that they would need to dissave or at least be able to dissave at rates which would not totally deplete their resources. While retirement nesteggs are not venture capital, there are safe, higher return alternatives to the savings passbook. Retirees may benefit from exposure to and education about these alternatives.

Also, the results point to a need for additional information on appropriate financial management techniques in retirement, including information on dissaving strategies. Unfortunately, little research has been done to clarify appropriate liquidation and other dissaving strategies.

The results with regard to initial value of assets have some policy implications. Higher initial values of assets are associated with lower probabilities of saving during retirement, but with positive increases in the differences between actual and expected values of assets. That is, although households may not be actively saving, they are spending down at an appropriate rate. The case can be made that policies should be developed to provide incentives for building savings for retirement, such as continued support of tax-deferred savings plans.

END NOTES

1. Survival from 1969 to 1979 was hypothesized to be a function of 1971 measures of income, self-perception of health, age, marital status, sex, and race. The probit equation estimated on these variables produced an average probability of survival of.55 and an average Mills ratio (Heckman's lambda) of .68.

Probit Coefficients on Survivorship from 1971 to 1979

Variable	B_i	t
Income (1000s)	.00045	.06
Health compared to others	.2342	2.12
Health compared to self 2 years ago	.1104	1.09
Age	-.0154	.55
Married	.3538	2.81
Male	-.1747	1.11
White	-.0474	.25
Constant	1.1916	
-2* Log Likelihood ratio	17.87	
N	1000	
Prob (survive) at means,modes	.38	
Average Prob (survive)	.55	

REFERENCES

Ando, Albert and Franco Modigliani (1963), "The 'Life Cycle' Hypothesis of Saving: Aggregate Implications and Tests," American Economic Review, 53 (No. 1): 55-84.

Bernheim, B. Douglas (1987) Dissavings after Retirement: Testing the Pure Life Cycle Hypothesis, in Bodie, Svi; Shoven, John B.; and Wise, David A., Issues in Pension Economics. Chicago: University of Chicago Press.

Davies, James B. (1981), "Underlain Lifetime, Consumption, and Dissaving in Retirement," Journal of Political Economy, 89 (No. 3): 561-577.

Hammermesh, Daniel S. (1982), Life Cycle Effects on Consumption and Retirement. National Bureau of Economic Research Working Paper Series, No. 976; Cambridge, Mass.

Hemming, R.C.L. (1977), "The Effect of State and Private Pensions on Retirement Behavior and Personal Capital Accumulation," Review of Economic Studies, 44 (No. 1): 169-172.

Hogarth, Jeanne M. (1987) Changes in Asset Resources During Retirement, in Hampton, Vicki, Proceedings of the 33rd Annual Conference of the American Council on Consumer Interests. Columbia MO: University of Missouri.

Kotlikoff, Laurence; Avia Spivak and Lawrence Summers (1982), "The Adequacy of Savings," American Economic Review, 72 (No. 5, December): 1056-1069.

Lydall, Harold F. (1955), "The Life Cycle in Income, Saving and Asset Ownership," Econometrica, 23 (No. 2): 131-150.

Mirer, Thad (1980), "The Dissaving Behavior of the Retired Aged," Southern Economic Journal, 46 (No. 4): 1197-1205.

Munnell, Alicia H. (1976), "Private Pensions and Savings: New Evidence," Journal of Political Economy, 84 (No. 5): 1013-1032.

Sharrocks, A.F. (1975), "The Age-Wealth Relationship: A Cross Section and Cohort Analysis," Review of Economics and Statistics, 57 (No. 2): 155-163.

Sobol, Marion Gross (1979), "Factors Influencing Private Capital Accumulation on the 'Eve of Retirement'," Review of Economics and Statistics, 61 (No. 8): 585-593.

ANALYSIS OF THE EFFECTS OF CHILDREN ON CONSUMPTION AND SAVINGS DECISIONS OVER THE LIFE CYCLE

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This study examines the effect of children on family savings decisions over the life cycle. The model used is a multinomial logit budget share allocation model. The data are from the 1982 Canadian Family Expenditure Survey Data. Results indicate that children do influence family savings decisions as parents seek to meet increased demands placed on resources as the result of adding a child to the family. First children tend to have the largest influence on asset accrual.

INTRODUCTION

In a recent article, Deaton and Muellbauer (1986) identified three possible ways in which families meet the costs of raising children. They show that parents may substitute out of current consumption, leisure time, or future consumption. In a study of the costs of raising children in Canada (1987) the authors confirm these results, finding that Canadian families (1) substitute out of the consumption of goods like adult clothing and food away from home in order to meet increased consumption demands placed on them by children (2) reduce their labour force attachment when children are young, and (3) substitute out of leisure time and into home production activities to minimize the need to increase current consumption. In addition, the authors examined the influence of children on savings behaviour. The purpose of this paper is to present results from the latter component of our work, examining the extent to which families reduce future consumption by saving less in response to the presence of children. To do this, we apply a multinomial logit budget share allocation model (MLBAM) to Canadian family expenditure data.

METHODS

The "new home economics" (see Becker, 1981; Michael and Becker, 1973; and Pollak and Wachter, 1975) serves as the theoretical framework on which we build. We assume that households derive utility from the consumption of home-produced commodities, one of which is child services. The inputs to the production process are 1) time and 2) market goods which the household purchases with either unearned income or earnings obtained from selling its labour in the market. Utility is maximized subject to time, income, and home production technology constraints. Input demand (expenditure) equations are derived by solving the cost function dual problem for the household's expenditure function. The functional form of our expenditure equations is based on work by Tyrrell (1979). We estimate expenditures in terms of budget shares specified in logit form:

$$(1)\quad w_i = \frac{e^{f_i(M,Z)}}{\sum_{i=1}^{n} e^{f_i(M,Z)}} \qquad i=1,2\ldots n$$

where w_i is the budget share for the i^{th} good, Y is family income, Z is a vector of family characteristics (which, for this application of the model, are family size and the ages of family members), and f_i is a function linear in the unknown parameters, with the following specification:

$$(2)\quad f_i(M,Z) = B_{i0} + B_{i1}\ln M + B_{i2}\ln S + \sum_{r=1}^{4} B_{i2r} \sum_{s=1}^{S_p} L_r(a_s) + \sum_{r=1}^{4} B_{i2(r+4)} \sum_{s=1}^{S_k} L_r(a_s)$$

where M is income net taxes, S_p is the number of parents in the family and S_k is the number of children, a_s is the age of family member s, and L_r is a transformation of the ages of family members, designed to approximate a cubic function (a complete exposition of the model is presented in Douthitt and Fedyk, forthcoming).

Features of the multinomial logit budget allocation model include the fact that it satisfies the Engel and Cournot aggregation constraints (it can also be constrained locally to satisfy homogeneity and Slutsky symmetry conditions). It relates commodity expenditures to a nonhomogeneous function of total expenditures and household size thereby allowing for economies and diseconomies of scale. In addition, it allows examination of the effect on commodity expenditures of adding a certain type of person to a specifically defined family type. Since such effects may vary according to the characteristics of other household members, MLBAM's measure of the influence of family composition on family expenditures does not strictly belong to the Engel "class" of equivalence scales; it is a less generally applicable measure.

DATA DESCRIPTION

The data used in this study were collected as part of Statistics Canada's 1982 Survey of Family Expenditures (FES). They include both expenditure and demographic information collected from a random sample of over 10,000 Canadian households. The scope of the study was limited in several respects because Statistics Canada did not release the entire survey for public use. For example, gender of children in a family was not revealed, meaning that the differences in costs and expenditures between male and female children which have been shown to exist (Olson, 1983) could not be examined.

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In order to minimize the effects of regional taste and price differences, we chose five regions for our analyses: British Columbia, the Prairies, Ontario, Quebec, and the Atlantic provinces. Our final samples consist of husband-wife families (1) with neither spouse older than 64 years of age, (2) not living on a farm, (3) with all members present the entire year and (4) whose income was not comprised of more than one third income-tested government assistance in 1982. The last criterion removes bias caused by the non-linear budget sets of those whose income is comprised primarily of government transfers (Lane, 1978).

We define savings to include moneys allocated to the purchase of durable goods (including automobiles and home furnishings), securities and stocks, private pension contributions as well as conventional savings instruments. Durable purchases are included in savings because they represent assets to the family and one way that families might reallocate monies to meet the costs of children is to forego the replacement of durables. Most notably missing from this definition of "savings" is payments to mortgage principal. A house represents a family's largest asset, and one might expect that payments to mortgage principal would be influenced by the presence of children. For the first stage of this analysis we include principal outlays as current consumption expenditures. Consumption includes expenditures for non-durable items: food, clothing, transportation (excluding the purchase of vehicles), shelter (including payments to mortgage principal), household operation, recreation, health, personal care, alcohol & tobacco, education, and miscellaneous expenditures.

We estimated a two equation system with dependent variables being the budget shares for consumption and savings in the form specified by (1). Maximum likelihood estimates were obtained using a procedure developed by Tyrrell (1979). In order to be able to examine the influence of children on consumption and savings over the life cycle, we used MLBAM parameter estimates to simulate the changes in consumption/savings budget shares over the life cycle. Predicted budget shares were generated for each year of the life cycle with every family member aging accordingly. For purposes of this paper we chose to simulate expenditures for an "average" Canadian family. The average family was identified by using national statistics regarding family economic, fertility and marriage behaviour. For example, it is assumed that our "average" couple marries when the man is 26 and the woman is 23, the 1982 population average ages at first marriage. Simulations are performed for one and two child families, since average family size for couples with children is 2.2. Consistent with population trends, we assume that the first child is born when the mother is 25 and the father is 28 and the second child is born two years later. Children are assigned an age of 0 in the year of birth since our sample explicitly excludes part year family members. Further, because the oldest child in the sample is 18 years of age, children are assumed to leave home after age 18.

In order to simulate predicted values of consumption and saving by families, it is necessary to specify a flow of income over the life cycle. We estimated a simple age-earnings profile using our sample of FES families. Separate income streams were generated for families with zero, one, and two children. For purposes of analyzing (simulating) the effects of children on family savings decisions we used only the one- and two-child family income estimates. The income stream of a one-child family was used in the simulations comparing childless and one-child allocation decisions. This implies we are examining the expenditures of a childless couple assuming they face the income stream of a one-child family and comparing those expenditures with that of the one-child family. Alternatively stated we compare the expenditures of an average one-child family with how that couple would have otherwise allocated their same income in the absence of a child. In this way we abstract from potential differences in resource allocation due to income rather than family composition effects between the two family types.

The income stream of a two-child family was used in the simulations comparing one-child and two-child allocation decisions. This implies we are examining the expenditures of a one-child family assuming they face the income stream of a two-child family and comparing those expenditures with that of the two-child family. Alternatively stated, we compare the expenditures of an average two-child family with how that couple would have otherwise allocated their same income in the absence of a second child.

The limitations of using cross-sectional data to draw inferences about longitudinal behaviour should be noted. This type of analysis involves the implicit assumption that couples in their twenties today will behave in ten years the way thirty year old couples do today, i.e. no cohort effects. However, given that to date no one has collected panel data on detailed expenditures that would span over any single family life cycle, consumer expenditure studies with their inherent limitations afford the best insight possible into family spending behaviour.

RESULTS AND DISCUSSION

Regional Analysis of the Effects of Children on Consumption/Savings Decisions Over the Life Cycle

Figures 1 through 4 illustrate the changes in savings shares over the life cycle for childless versus one-child, and one-child versus two-child families for the regions who exhibited the most extreme values: British Columbia families reduce savings the least in response to the presence of

FIGURE 1. Comparison of savings shares over the life cycle: Childless versus one-child families living in British Columbia, 1982.

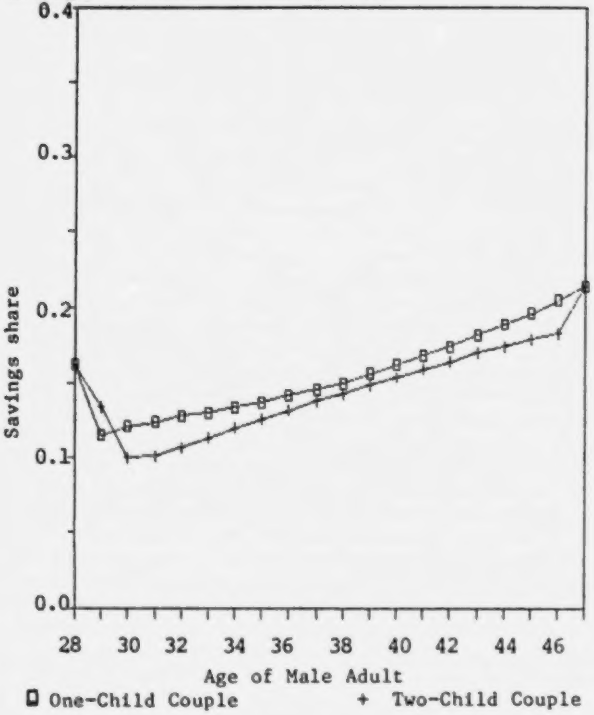


FIGURE 3. Comparison of savings shares over the life cycle: Childless versus one-child families living in Ontario, 1982.

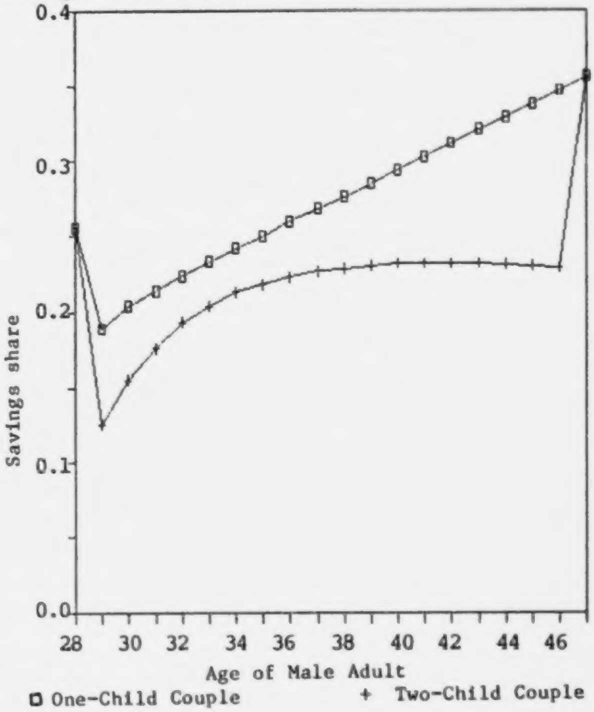


FIGURE 2. Comparison of savings shares over the life cycle: One-child versus two-child families living in British Columbia, 1982.

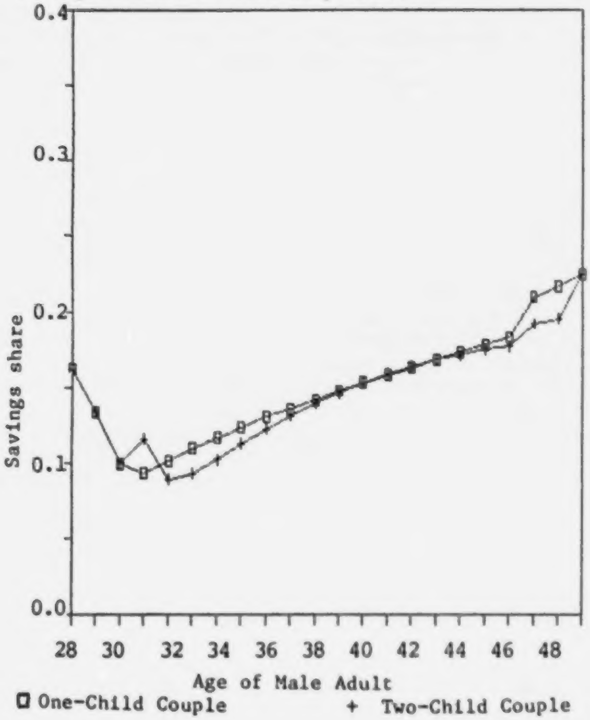
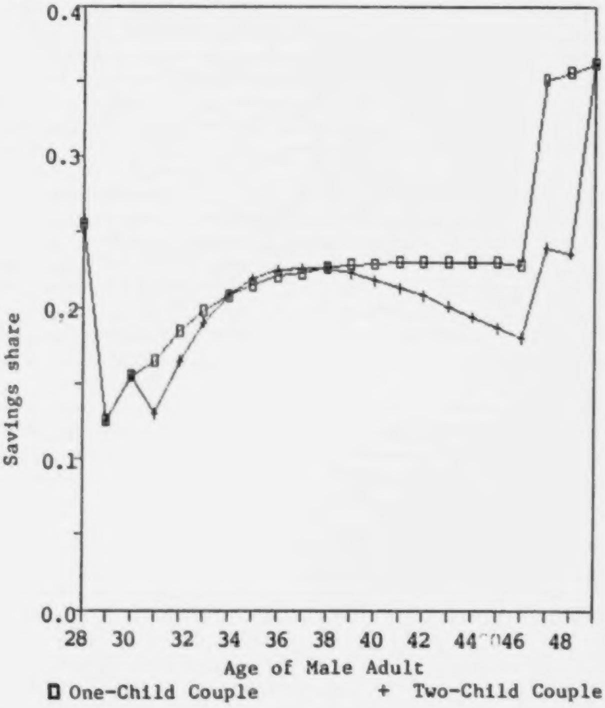


FIGURE 4. Comparison of savings shares over the life cycle: One-child versus two-child families living in Ontario, 1982.



children and Ontario families forego the most savings to meet the costs of raising children. Since consumption and savings budget shares sum to unity, decreases in the savings share represented in these figures can also be thought of as increases in consumption necessary to meet the costs of children. Although magnitudes differ, the basic pattern of change in the savings share for one-child families (Figures 1 and 3) is the same for both regions: dropping initially upon the birth of the child (male adult aged 29), and rising slightly each year, although at all times at a level of savings less than that of their childless counterparts.

Figure 2 reveals that the presence of the second child in British Columbia families precipitates a decrease in savings initially, but that by the time the first child is 10 years of age (male adult aged 39) savings shares for two-child families are identical to those for one-child families, i.e., no additional savings is foregone to meet the cost of the second child. Ontario families respond differently to the presence of a second child (Figure 4). Although savings rates for one- and two-child families coincide, they do so at an earlier point in the life cycle than the savings rates for British Columbia families, and for a shorter period of time. At the point where the shares of British Columbia families converge (first child aged 10), savings shares for Ontario families begin to diverge. Ontario families are more likely to forego savings to meet the costs of their teenage children than are British Columbia families. [Note: the change at male age 46 corresponds to the point where the first child leaves home and at male age 48 to the second child's leaving home.]

Table 1 presents regional comparisons of total foregone savings over the 18 year life cycle. The amounts calculated for one-child families represent the summation of the area between the childless couple simulation curve and that of the one-child family, (see Figure 1). Similarly, figures for the second child include the area between the one- and the two-child simulation curves.

TABLE 1. Net foregone savings over the life cycle by region for one- and two-child families.

	First child	Second Child
British Columbia	$6,520	$1,671
Prairies	$10,181	($996)
Ontario	$33,643	$13,078
Quebec	$18,193	$4,875
Atlantic	$17,705	$9,632

Several common trends in net foregone savings emerge across the regions. First, in every region one-child families consistently save less than their childless counterparts. One-child families across all regions forego from $6,520 to $33,643 in savings over an 18 year period compared to their childless counterparts with the same after-tax income. Secondly, in all regions with the exception of the Prairies, families further decrease their savings to meet increased need for current consumption due to the second child's presence. However, they reduce their asset accrual (vis-a-vis what they would have accumulated had they not decided to have a second child) at a rate lower than that induced by the introduction of the first child. Only two-child families in the Prairie region record an actual increase (albeit small) in savings (vis-a-vis their one-child counterparts) over the 18 year period. This result is consistent with higher than average rates of personal savings by families living in especially the provinces of Saskatchewan and Manitoba.

Clearly the effect of one child on total savings varies by region. British Columbia families record making the least adjustment ($6,520) while Ontario families the greatest adjustment ($33,643) in asset accrual to meet the costs of increased current family consumption necessitated by the presence of a child. The effect of a second child on net change in assets is similar with regard to order of magnitude by region. However, the marginal effect of the second child (as a percent of the savings foregone as a result of the presence of the first child) follows a different trend. For example, an average family in the Atlantic provinces slows their asset accrual by 54 percent of that necessitated by the birth of the first child as a result of the presence of a second child. Remaining regions record smaller effects (Ontario 39 percent; Quebec 27 percent; British Columbia 26 percent) with Prairie families making virtually no adjustment in their asset accrual as a result of the presence of a second child. The wide regional disparity in asset accrual rates noted across regions was of interest. One possible hypothesis for these regional differences is that families in different regions use different types of assets to meet the costs of children. Thus we decided to examine the effect of children on a savings budget share that includes housing principal.

Analysis of the Effects of Children on Asset Accumulation Over the Life Cycle

In the previous section we discussed the effects of children on savings or asset accrual by families over the life cycle. In that analysis we defined savings to equal expenditures on assets in a given year. Contrary to previous work by other authors, we included mortgage principal in the consumption rather than saving side of the analysis. In general, we found that children have the effect of reducing asset accrual by families throughout the life cycle. The first child had a larger marginal effect on asset accumulation than did the second child. However, we also found that there were wide differences across regions with regard to the level of foregone savings. For example, a first child had the greatest effect on asset accrual by Ontario families ($33,643) and the smallest effect on British Columbia families ($6,520) over the life cycle.

In this section of our report we will redefine savings to include payments to mortgage principal. In this way we can analyze the effect of children on total asset accumulation, and examine whether regional differences noted in savings rates will be further magnified or reduced by including this component.

Tables 2 and 3 present results of our regional analysis for mortgage principal included in savings. The reader may wish to refer back to Table 1 to recall analysis of savings excluding mortgage principal. We will discuss first the regional effects of children on mortgage principal, and finally their effects on total asset accrual.

Effects of children on accrual of mortgage principal.

TABLE 2. Life cycle asset accumulation.

	Number of children		
	0	1[a]	2
British Columbia			
Assets without housing	$85,290	$78,770	$75,500
Assets with housing	$133,400	$118,402	$109,042
Prairies			
Assets without housing	$76,426	$66,245	$65,563
Assets with housing	$135,010	$144,479	$108,058
Ontario			
Assets without housing	$98,968	$65,325	$50,555
Assets with housing	$151,327	$117,195	$105,983
Quebec			
Assets without housing	$108,467	$90,274	$87,073
Assets with housing	$132,009	$117,658	$111,580
Atlantic			
Assets without housing	$144,328	$126,623	$114,569
Assets with housing	$177,248	$156,288	$145,795

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[a] Simulation results using income stream of one-child families.

Table 2 reveals that mortgage principal contributes considerably to the total wealth accumulated by all families. Particularly in the Prairie region, inclusion of mortgage principal can add as much as 118% to the total value of assets accumulated over the full nest stage of the life cycle. Housing principal contributes the least to asset accumulation in the Atlantic provinces.

The marginal effects of children on accrual of mortgage principal (first column, Table 3) are similar to their effects on savings less mortgage principal, namely that the marginal effect of the first child exceeds that of the second. One-child families in the Prairies tend to forego the most in home equity compared to their childless counterparts. Over an 18 year period they accumulate $10,350 less in housing equity than their childless counterparts. Conversely one-child families in Quebec actually accumulate more ($3,842) housing equity than their childless counterparts over an 18 year period.

Two-child families in British Columbia accumulate $5,441 less in housing equity than their one-child counterparts during their full nest stage of the life cycle. Conversely, two-child families in the Atlantic provinces accumulate $2,000 more in home equity over the same period than their one-child counterparts. The remaining regions lie somewhere in between.

TABLE 3. Effect of children on asset accrual.

	Effects of housing equity on asset accrual	Difference in total asset accrual
British Columbia		
One child[a]	$8,478	$14,998
Two children[b]	$5,441	$7,115
Prairies		
One child[a]	$10,350	$20,531
Two children[b]	$4,881	$3,888
Ontario		
One child[a]	$489	$34,132
Two children[b]	($4,472)	$8,606
Quebec		
One child[a]	($3,842)	$14,351
Two children[b]	($1,368)	$3,507
Atlantic		
One child[a]	$3,255	$20,960
Two children[b]	($2,000)	$7,632

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[a] The difference between childless and one-child families simulating with the income stream of one-child families.

[b] The difference between one-child and two-child families simulating with the income stream of two-child families.

Effects of children on total asset accumulation.

Column 2 of Table 3 presents results regarding the effects of children on total asset accumulation i.e., net change in assets over the life cycle including mortgage principal. Consistent with all our previous findings we see that the marginal effect of a first child on total asset accumulation is greater than that of the second child. Across regions a one-child family saves somewhere in the neighbourhood of $14,000 to $21,000 less than their childless counterparts over the life cycle. The marginal effect of a second child (vis-a-vis one-child) is between $3,500 and $7,600 over the life cycle.

Perhaps the most striking results are the regional similarities regarding the effects of children on total asset accumulation. Analysis of both net change in assets EXCLUDING mortgage payments and accumulation of housing assets (payments to mortgage principal) alone revealed broad region differences in levels of saving. However, when taken together i.e., when we combine both payments to mortgage principal with other forms of asset accumulation, the effects of children are much more consistent across regions. This implies that the effect of children on total asset accumulation varies only slightly across regions, but that there may be significant regional effects within the asset portfolio. Further investigation of such effects are needed and will be the subject of future analysis.

REFERENCES

Becker, G.S. (1981). *A Treatise on the Family.* Cambridge: Harvard University Press.

Deaton, A. and Muellbauer, J. (1986), "The Costs of Raising Children in Third World Countries." *Journal of Political Economy*, 90: 345-55.

Douthitt, R.A. & Fedyk, J.M. (Forthcoming) "The Influence of Children on Family Life-Cycle Spending Behaviour: Theory and Applications" *Journal of Consumer Affairs*

Lane, S. (1978). "Food distribution and food stamp programs effects on food consumption and nutritional achievement of low income persons." *American Journal of Agricultural Economics*, 60: 108-16.

Michael R.T. & Becker, G.S. (1973). "On the New Theory of Consumer Behavior" *Swedish Journal of Economics*, 75(4): 378-96.

Olson, L. (1983). *Costs of Children*. Toronto: Lexington Books.

Pollak, R.A. & Wachter, M.L. (1975). "The Relevance of the Household Production Function and Its Implications for the Allocation of Time." *Journal of Political Economy*, 83(2): 255-77.

Tyrrell, T.J. (1979). An application of the multinomial logit model to predicting the pattern of food and other household expenditures in the Northeastern United States. Doctoral dissertation, Cornell University.

DISCUSSION: LIFE CYCLE EFFECTS ON SAVING

Barbara M. De Luca, University of Dayton[1]

ABSTRACT

The three studies discussed are analyzing some aspect of household saving with respect to life cycle stages. One paper analyzes saving vs. dissaving in retirement, while a second, also considering the retirement stage of the life cycle, investigates the adequacy of levels of savings while working in order to support retirement consumption preferences. The third study analyzes the changes in savings decisions over the life cycle due to the presence of children.

HOGARTH PAPER

The purposes of the Hogarth paper were to "explore determinants of saving and dissaving with regard to financial assets in retirement and (to explore) the factors affecting disproportionate dissavings, relative to life expectancy." In her efforts to study saving and dissaving in retirement, Hogarth first developed a method of comparing dissaving from 1971 to 1979 for the subject households by standardizing dissaving rates. Her method of doing this seems quite appropriate. Using number the years of life expectancy remaining provided a common denominator which was then adjusted for each case depending on the age of the respondent in 1971. She then determined the probability of being a saver using a probit model.

The calculated difference between the actual dissaving rate and the standardized rate (which she referred to as the expected rate) was used in an OLS model to determine factors which would cause the difference between the two rates. It is surprising that health did not surface as a significant factor in distinguishing savers from dissavers. Perhaps it would be more appropriate to pursue an objective measure of health status, rather than the subjective measure used, in order to evaluate its relationship to saving/dissaving status.

The appropriateness of the use of housing values as a determinant of saving/dissaving status is unclear. If the use of house value was inappropriate in similar studies, as Hogarth states, it is not clear why it is appropriate in the present study. In other words, the distinction between including or not including house value as an independent variable in studies exploring saving/dissaving rates in retirement is vague, at best.

The text explaining the findings in the OLS model would be easier to follow if the dependent variable were more completely identified; that is, referring to the "difference between the actual dissaving rate and the expected rate" when explaining the results would enable the reader to more readily understand the relationships discussed, rather than referring simply to the "difference variable." Again, a more objective measure of the health variable might have led to different findings; a dollar value for average annual health expenditures or a rate of increase in health expenditures from 1971 to 1979, or some factor which assigns a dollar value to health might affect the findings. Considering the great increases in health care costs in the last 20 years and the fact that much of the literature about the elderly and their resource management focuses on health as a critical resource affecting other resources, it seems appropriate to suggest a refinement of the health variable. A more appropriate health variable would perhaps also help to answer questions about those dissaving at "rates that could not be sustained during their expected lifetimes," the intent of her third model. Hogarth makes mention of health expenses in her discussion. Perhaps in further research, this could be investigated.

One final comment regarding the Hogarth paper is in order. Reference is made in the early part of the paper to the use and perhaps misuse of longitudinal and cross-sectional data. Although it is obvious that cross-sectional data cannot be used when attempting to identify changes or effects over time, it is not necessarily true that the researchers cited herein are trying to do this. In the case of some of the research reviewed in the Hogarth paper, she states that, "...it may not be appropriate to infer the behavior of one cohort from the behvavior of another." It is suggested by this disscusant that this is not the effort of those using cross-sectional data. Rather, they are predicting or explaining behavior, predicting or explaining in an attempt to be more knowledgeable about similiar behavior of future groups. Cross-sectional data are appropriate in such cases.

DOUTHITT AND FEDYK PAPER

Douthitt and Fedyk looked at the effect of children on family savings decisions over the life cycle. They used expenditure data to determine "...the extent to which families reduce future consumption by saving less in response to the presence of children."

Although their analysis is quite interesting, several points regarding their work are vague. The model used, if studied carefully in the appendix, is relatively clear. However, it is much less clear in the text of the paper as is the application of the model to the data. An explicit application of the data to the model would greatly enhance reader comprehension of the paper.

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[1] Assistant Professor

The goal of the analysis is clearly stated. However, not so clear is why the resultant information is important. In other words, what is the purpose of such a study? Is there a need for this type of information? If there is, what is the need?

Although the need to "...specify a flow of income over the life cycle" is quite clear, it might be informative to include a brief explanation of the disadvantage of using cross-sectional data for the intent of this paper. When a discussion of asset accrual and net change in savings over the life-cycle is undertaken, it seems clear that longitudinal data would be better. Obviously, it is not always available but some mention needs to be made of its advantages.

Reference is made to consumption in both the title and in the original placement of mortgage principal, however, little is actually done with consumption in the research. Considering that households can either save or consume with income, thought might be given to eliminating the consumption aspects of the paper and concentrating only on the savings in future research. Also in future research, inclusion of a literature review on savings patterns in households with children might provide some basis for the reader to better appreciate the study.

Use of traditional subtitles might help make the flow of the paper easier to follow as would a further clarification of footnotes and text review of the second table. Although there is an intuitive understanding of noth tables, the source of the values included is not explicit.

Upon reading the paper several times and checking the references, the thought occurred to me that this study is probably part of a much larger research work and perhaps this is why gaps seem to exist and some points seem unclear. If this is the case, it might be beneficial if it were treated exclusively.

Finally, it would be very interesting to repeat the study to compare families which have the first child when the mother is 35 or older and the father 38 or older to those having the first child at 25 and 28 respectively. It seems likely that savings and expenditure patterns prior to having children would affect savings and expenditure patterns after children differently for older "new" parents.

BURNS AND WIDDOWS PAPER

The research question addressed by Burns and Widdows is whether or not baby boomers "...are currently accumulating the finds required for financial security during retirement." By calculating supply of assets available at retirement and demand for assets during retirement and subtracting demand from supply, they were able to quantify a "retirement gap."

Not only was the purpose of the study made quite clear, but the importance of the research was also explicitly stated. The importance of the research "...in view of the forecasts of impending doom of the Social Security system" is obvious. Less obvious, and quite interesting, is their mention of the depletion of asset levels in private industry and the banking system when boomers begin to draw on retirement savings.

Family income was used in the calculations. The definition of family income is not clear. Does it include the incomes of persons in the household besides the husband and wife? If it does, is this valid? Perhaps a short explanation to delineate the income factor would clarify this point. Also regarding the form of income used, in the needs equation, was gross or disposable income used? Would it have made a difference? Needs would have been smaller if disposable income had been used (assuming it was not). The thought occurs that this figure might be a more realistic one to use for needs assessment since it more realistically mirrors income available for consumption throughout the working years. A short discussion in the paper might clarify this point.

Is the gap as bad as it looks for all families? Do the 75% and 80% adjustments adequately account for differences in family size as well as reduced expenditure patterns usually associated with retirees? For example, needs in retirement might be less than 75% or 80% of working years for retirees with large families when all members were living at home. Future research might investigate a method of accounting for this.

It is not immediately clear when discussing Part 2 of Table 2 if the authors are referring to the supplementary estimate of retirement gap or the original estimate. The explanation of the second part of Table 2 is a bit difficult to follow.

Finally, mention in the discussion section about the effect of the use of average Social Security is sound. It might prove interesting to attempt to develop a method for more accurately determining Social Security benefits, perhaps one consistent with the estimate of permanent income could be calculated.

INSTRUCTIONAL SOFTWARE FOR CONSUMER AND FINANCIAL PLANNING EDUCATION

Les R. Dlabay, Lake Forest College[1]

A wide variety of personal computer software packages can be adapted to instructional settings for consumer education and personal financial planning. These programs range in price from no cost to several hundred dollars, with capabilities ranging from simple calculations to integrated financial planning systems.

INTRODUCTION

As computer technology becomes more available for instructional purposes, consumer education and personal finance teachers are wanting to make greater use of this resource in their classes. Areas of concern that should be addressed when planning and implementing this instructional technique include identification of available software, evaluation of the microcomputer packages, and development of educational experiences.

SOFTWARE INFORMATION SOURCES

The following sources can assist teachers in becoming informed on available software packages that may be used in consumer education or personal finance classes:

- listings in the ACCI Newsletter which presents title, source, cost, type of equipment, and a summary of content and features
- exhibits at the ACCI conference and other professional meetings
- catalogs and advertisements from publishing companies and software distributors
- advertisements and software reviews in professional journals and periodicals
- advertisements and "marketplace" listings (classified advertisements) in computer periodicals such as PC, PC World, Personal Computing, and Family & Home-Office Computing.

EVALUATION FACTORS

In the process of considering software for class use, the following items can provide the basis for evaluating the strengths and weaknesses:

- equipment type and requirements
- availability of a sample or demonstration disk
- ease of operation (data entry; menu vs. command)
- adaptability to teaching situations
- usefulness of documenation and manuals
- printing capabilities
- cost (site licensing vs. individual disk price)

INSTRUCTIONAL SUGGESTIONS

The use of personal computer software in class settings has several possibilities which range from simple, problem-solving calculations to development of a comprehensive personal financial plan.

1. problems, application exercises such as calculations of the cost of credit, an investment yield, time value of money, or creation of a personal balance sheet.
2. simple cases in which students must decide which alternative to accept in a given situation based on different opprtunities.
3. comprehensive financial planning case with several components related to setting financial goals, assessing a current financial position, selecting spending and borrowing plans, developing an insurance and investment plan, and planning for retirement and taxes.
4. personal financial planning in which students use software packages to assess and create a direction for their own situation.

RESOURCE CONTACTS

The following individuals may be contacted for information on the type of software listed as well as for ideas for implementing these into instructional settings:

Sherman Hanna, The Ohio State University, 1787 Neil Ave., Columbus, OH 43210 (spreadsheet templates and expert systems for family resource manaagement)

Jeanne Hogarth, Dept. of Consumer Economics and Housing, Cornell University, Ithaca, NY 14853 ("Ready...Set...Retire")

Randy Mullis, University of Wisconsin, 1300 Linden Dr., Madison, WI 53706 ("Andrew Tobias' Managing Your Money")

Joseph Wysocki, University of Illinois, 551 Bevier Hall, Urbana, IL 61801 ("Home Ownership")

For a comprehensive list of consumer education and personal finance software, contact Les Dlabay, Dept. of Economics and Business, Lake Forest College, Lake Forest, IL 60045.

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ESTIMATING DEMAND RELATIONSHIPS BETWEEN CLOSE SUBSTITUTES USING LIMITED OBSERVATIONS FROM MARKETPLACE EXPERIMENTS

David B. Eastwood, The University of Tennessee[1]
John R. Brooker, The University of Tennessee[1]

ABSTRACT

Applied demand analysis using marketplace experiments for two close substitutes is discussed. Some theoretical considerations are outlined for the situation in which a treatment good has price and label changes, ceteris paribus. Limited sample sizes often accompany experimental situations. The theoretical considerations can facilitate the estimation of market demand relationships for close substitutes. Application is illustrated with the test of a logo for locally-grown tomates.

Economists have typically avoided situations in which marketplace experiments are used to generate data for applied demand analyses. The tendency has been to develop theoretical models and to test them using secondary data such as the National Income and Product Accounts, Consumer Expenditure Surveys, and the Nationwide Food Consumption Surveys. However, important consumer demand research relative to the marketing of specific products requires information not contained in these traditional data. Consumers' reactions to promotional efforts and/or the usefulness of product information are examined through marketplace trials. Such experiments usually involve control and treatment groups and the introduction of specific effects to the treatment group. Quite often, time and budget constraints limit the number of trials that can be conducted, and thereby, limit the data available for the testing of hypotheses and for making inferences. This paper considers alternative ways of looking at demand relationships associated with such marketplace experiments.

THEORETICAL CONSIDERATIONS

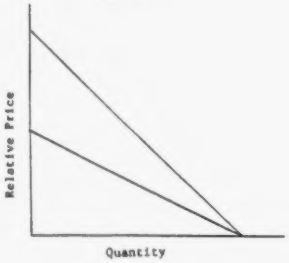
Assume the demand for good i is separable from the other products consumers buy. One way of explaining this condition within the context of marketplace trials for brands of the good in question is to assume that those shoppers who purchase the item have decided to do so prior to entering the store and when confronted with the experiment make decisions among the brands. Given this setting sales data can be viewed as reflecting substitution choices. The experiment's short time period is consistent with consumers having fixed preferences for the product, as well as fixed incomes. Consumers are assumed to face perfectly elastic supplies of the brands, so demand can be estimated.

Classical economic analysis of the consumer's utility maximization problem leads to a demand relationship in which the quantity demanded is a function of prices and income. Several adjustments are made in the demand equation to accommodate the experimental setting. One is that no income change is expected to occur, so there is no effect of this variable on the quantity demanded.

The marketplace experiments considered below have two effects on the demand relationship. One pertains to changing the price of a brand, good i, while holding the price of the other, good j, constant. Even though only one price changes, the relative prices of both goods change in opposite directions. For example, suppose $p_i = p_j = \$1.00$. If p_i increases to \$1.10, then its relative price has risen from 1 to 1.1. At the same time the relative price p_j has fallen from 1 to .91. This means that, in this particular experimental setting in which only one price changes, two relative price observations are generated.

The other effect on the demand relationship involves the presence or absence of a promotion. To the extent that it provides relevant, positive information to consumers, a promotion should affect the rate of substitution between the two brands, or the slopes of the demand curves. This is illustrated in Figure 1. The vertical axis measures the relative price, and the horizontal scale measures the quantity of either brand. Since there are only two brands, and only one brand has price changes, the slope of one demand curve is the reciprocal of the other.

Figure 1



Furthermore, the nature of the marketplace experimental setting outlined above suggests a common quantity intercept. The interpretation is that, as (p_i/p_j) falls, q_i is becoming relative cheaper, so more q_i is substituted for q_j. As the consumer moves down and to the right along one demand curve, this person is also moving up and to the left along the other. In the limit as (p_i/p_j)

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approaches zero, virtually all of the sales are q_i, and q_j is nearly zero. This leads to a common quantity intercept reflecting the situation of either relative price being so low as only that respective brand is purchased. This situation is the familiar one in applied regression analysis in which there is an interaction between a dummy variable and another variable. The hypothesized market experiment demand equation is

(1) $q_i = a + b(p_i/p_j) + c(p_i/p_j)(\text{PROM})$,
where PROM = presence or absence of the promotion.

Other functional forms could be considered. Two obvious suggestions have limitations within the context of small samples and estimating levels of sales of close substitutes. One of these is to estimate the demand for each brand separately, but this splits the sample observations into two subgroups which could cause degrees of freedom problems given the few trials. The other is to examine relative quantities (q_i/q_j). But this entails dividing one demand equation by another, and there is no way to separate out the effects of the various independent variables given the ratio.

Another possibility is to express equation (1) in log or semilog form. This really introduces the issue of the appropriate functional form. The conventional way of dealing with it is the Box-Cox estimation procedure. However, this focuses on alternative relationships among a given set of independent variables. Single versus combined equations and the appropriate way to incorporate dummy variables are not amenable to the Box-Cox approach, so it is not used here.

AN EXPERIMENTAL SETTING

Per capita consumption of many fresh produce commodities increased substantially during the past fifteen years (USDA 1986). For example, per capita fresh tomato consumption increased from 10.5 pounds in 1970 to 13.4 pounds in 1985. Consumers' recent interest in fresh produce has fostered interest within the agricultural sector to promote produce production as alternative enterprises for new sources of income (Estes 1985, Henkes 1987). One market outlet that is suggested for growers in nonmajor production regions is the sale of produce directly to retail chain stores. Considerable demand research has been completed regarding direct market outlets (e.g., roadside stands), while little has been published regarding locally-grown produce sold through supermarkets.

State-level sponsorship of produce promotion has taken numerous forms, from national television and magazine advertisements to within-state promotion. These efforts are designed to enable growers to "brand" their products on the basis of the state in which they are grown. Logo-stickers are one of the ways to do this. A 1986 national household survey conducted by The Packer indicated country or region-of-origin labeling of fresh produce was not identified by consumers as a highly important criterion in selecting produce or a produce market (Zind 1986). However, the survey results did reveal that origin ranked above brand name in position of importance.

A survey conducted by Eastwood, Orr, and Brooker indicated that consumer interest in locally-grown fresh tomatoes was significantly higher than for other fresh produce. The Tennessee Department of Agriculture was also beginning to look at the promotion of state-grown produce through the use of a logo. These considerations led to a study of consumers' supermarket purchases when presented with various pricing and labeling situations with respect to tomatoes.

The decision to use in-store experiments is consistent with the assumption that weekly tomato purchases are separable from other purchases, including fresh produce. Since so many food shoppers buy tomatoes regularly vis-a-vis other fresh produce, the assumption is that a consumer involved with the experiment entered the store with prior expectations about the quantity to purchase and just focused on substitution between the two bins. Also, no other labelled locally-grown fresh produce was available in the stores.

The supermarkets were selected from the Knoxville, Tennessee area to provide some representation from lower income households in the inner city and higher income households in the suburbs. Three supermarkets participated. Within each of the participating retail stores, sales experiments were conducted for four days in each of two consecutive weeks of July, 1986. The experiment days were Wednesday through Saturday. The initial plan involved four experiments, described below. A random assignment of stores and treatments took place.

On one day of each week in each store the base experiment was conducted. This consisted of two bulk bins of tomatoes that were separated by avocados and prepackaged tomatoes. For this base experiment there was no information as to tomato origin of either bin, and the price per pound was the same for the tomatoes in both bins. One of the bins contained the tomatoes supplied by the retailer's own organization, unchanged from what they routinely handled. The other bin was stocked with locally-grown tomatoes delivered to the retailers each morning of the experiment days. These locally-grown tomatoes were purchased from Knoxville area growers by a Knoxville wholesaler. The grade and size of the tomatoes were the same for the treatment and control groups.

In order to gather data on the effectiveness of the Department of Agriculture's logo-sticker alone, one treatment pertained to charging the same price, but the locally-grown tomatoes were identified by individual logo-stickers placed on each tomato. A larger eight inch square logo was also attached to the bin display of locally-grown tomatoes. This experiment was conducted once each week in each store.

The experiments during the remaining two days of each week involved using the logo identification stickers and setting the price of the locally-grown tomatoes. This experiment was conducted once each week in each store.

The experiments during the remaining two days of each week involved using the logo identification stickers and setting the price of the locally-grown tomatoes 15 cents, and 30 cents, 50 cents per pound above the retailer's price for the other tomatoes (priced at 89 cents per pound). A listing of the experiments conducted in each store is presented in Table 1.

Table 1. In-store tomato sales experiments conducted in three Knoxville metropolitan area supermarkets

	Experiment[a]					
	Store No. 1		Store No. 2		Store No. 3	
Date	Price	Label	Price	Label	Price	Label
July 7-12:						
Wednesday	Equal	no	30 cents	yes	15 cents	yes
Thursday	Equal	yes	Equal	no	30 cents	yes
Friday	15 cents	yes	Equal	yes	Equal	no
Saturday	30 cents	yes	15 cents	yes	Equal	yes
July 16-19:						
Wednesday	50 cents	yes	30 cents	yes	Equal	yes
Thursday	30 cents	yes	50 cents	yes	Equal	no
Friday	Equal	yes	Equal	no	50 cents	yes
Saturday	Equal	no	Equal	yes	30 cents	yes

[a] Prices of local and 'other' tomatoes equal to each other or local set 15, 30, or 50 cents per pound above the 'other' tomatoes. Label refers to use of "Tennessee--Country Fresh" logo.

Bulk tomato sales per day varied considerably, which is expected given the typical daily pattern of supermarket sales. Thus, any evaluation of consumers' responses should adjust for this phenomenon. One way to do this is to convert the daily volumes into standard-day equivalents. Saturday is the chosen standard. Sales of the other days were weighted by the reciprocal of the average volume per that day of the week relative to Saturday.

When the prices of the local and other tomatoes were equal, with no labelling as to origin, the local tomatoes accounted for 61 percent of the weighted bulk sales (Table 2). So, just based on appearance, local tomatoes outsold the other tomatoes. This is consistent with an earlier study that revealed the three most important criteria consumers use to judge tomato quality are appearance related (Eastwood, Orr, and Brooker 1986). The proportion of locally-grown tomato sales increased to 69 percent when the logo was placed on each tomato and prices were equal. Setting the price per pound of locally-grown tomatoes 15 cents above the other bulk tomatoes, with the logo present, caused the proportion of local sales to decline to 65 percent. The proportion of local tomato sales was 64 percent when the local tomato price was set 30 cents higher, and proportion fell to 43 percent when the price was 50 cents higher. An inference from these data is that some Knoxville consumers must perceive locally-grown tomatoes as premium produce worth a higher price than the comparable size and grade other tomatoes.

Table 2. Weighted average per day bulk tomato sales by experiment and origin, Knoxville, Tennessee, 1986

Experiment[a]	Bulk tomatoes sold[b]					
	Local		Other		Total	
	pounds	percent	pounds	percent	pounds	percent
Equal price - no label	201.7	61	128.8	39	330.5	100
Equal price - TCF label	226.9	69	100.2	31	327.1	100
15 cents per pound - TCF label	234.4	65	125.7	35	360.1	100
30 cents per pound - TCF label	182.9	64	105.1	36	288.0	100
50 cents per pound - TCF label	106.0	43	142.7	57	248.7	100

[a] See Table 1 for details of the experiments. The base price was 89 cents per pound.

[b] Weighted Saturday equivalent of bulk tomato sales per retail chain store.

There is a limited number of observations associate with this marketplace experiment. Three stores, two four-day periods, and local versus out-of-state sales result in 48 price and quantity observations. The limited number of trials and the close association between the presence of the logo and the presence of local tomatoes made it statistically impossible to separate the association between these two events. Consequently, only the local measure is used. Interpretation of the effect of the local variable is considered to reflect the combined impact of local tomatoes which have been labeled.

RESULTS

Equation (1) assumes the consumers' price response to the relative price of local tomatoes is different from the other tomato price response. However, as the relative price approaches zero, in either case the same limiting quantity of tomatoes would be purchased. Since previous surveys have indicated that consumers perceive local tomatoes as having higher quality and freshness, the expectation is that a local promotion would have a positive effect on local sales. Further, our hypothesis is that consumers are less price sensitive to local tomatoes than to other tomatoes. More precisely, the combined effect for labelled local tomatoes is b + c (because PROM = 1), while for other tomatoes it is b (because PROM = 0). b is hypothesized to be negative and c positive, so b + c is closer to zero than b alone.

Ordinary least squares regression was used to estimate the demand equation. The results are shown as equation (2). Other dummy variable formulations were estimated, and the one presented in this paper generated the best fit. Values in parentheses are t-values. The computed F-value leads to the inference that the set of coefficients is significantly different from zero. The R^2 value indicates that 34 percent of the variation in adjusted sales is explained by the equation.

(2) $$q_i = \underset{(5.25)}{276.52} - \underset{(-2.95)}{178.04}(p_i/p_j) + \underset{(4.65)}{106.29}(p_i/p_j)(PROM)$$

$$R^2 = .34 \qquad F = 11.46$$

The coefficients have their expected signs and are significantly different from zero. The negative coefficient for (p_i/p_j) indicates that as the relative price of the ith tomatoes increases, sales decline. The magnitude of this coefficient reflects the units of measurement. A unit increase in the ith relative price, ceteris paribus, is estimated to lead to a 178 pound decrease in the ith tomato sales. This large change is a result of the nature of the relative price measure. A unit increase entails a doubling of the local price relative to the other price, which is a large price change. The interaction of the relative price and PROM, ceteris paribus, is estimated to increase store sales of local tomatoes on a Saturday equivalent basis by over 106 pounds.

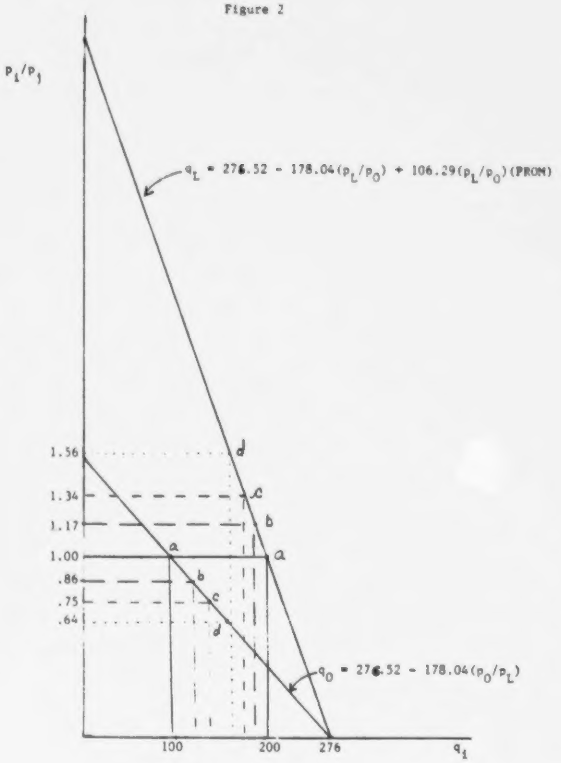
The equation can also be used to generate estimated own-price elasticities of local and other tomatoes. Using the mean relative price and the mean adjusted sales of local and other tomatoes, the respective price elasticities are -.47 and -1.28. The magnitudes of these elasticities places them in the inelastic and elastic ranges. These values reflect the degree of substitution consumers have for local versus other tomatoes and the effect of large relative price changes associated with the trials. Thus, attention is directed toward the relative magnitudes (Nelson and Robinson 1978). Within this context the labeled local tomato elasticity, being approximately, 2.7 times the value of the other tomato elasticity, suggests that consumers are much more willing to substitute local for other tomatoes than vice versa.

Equation (2) is also represented as Figure 2. The local and other demand curves are labeled. They have the common quantity intercept of 276.52 pounds, and both are linear. When the relative price is one, estimated local and other sales are 205 and 98 pounds, respectively. These are determined in the diagram by the intersection of the relative price equal to one line with each demand curve (points a). Increases in the local price raise the relative price of local tomatoes and lower the relative price of other tomatoes. Therefore, each of the three price increases in local tomatoes due to the experiment are associated with a lower relative price of other tomatoes. The corresponding pairs are labeled with the same lower case letters. Notice that movement along one demand curve is associated with an opposite movement along the other. As the relative price of local tomatoes increases, consumers substitute other tomatoes for the relatively higher priced local ones.

CONCLUSIONS

This result also supports the hypothesis that some consumers are willing to pay a relatively higher price for local tomatoes, but the elastic demand for other tomatoes constrains the magnitude of such adjustments. It is consistent with the sales data from the trials. They indicate a relative price $.50 above the $.89 other price leads to substantially decreased local sales, while relative prices involving $.15 and $.30 above the other tomato price lead to modest reductions in local sales. An inference is that consumers would like origin information provided by stickers if the tomatoes are of comparable quality and priced competitively.

Figure 2



REFERENCES

Brothers, Jane R. and Harold G. Love, (1981), "State Oriented In-Store Merchandising Techniques," Journal of Food Distribution Research, 11 (February):216-23.

Eastwood, David B., Robert H. Orr, and John R. Brooker (1986), Consumer Stated Preferences for Fresh Fruits and Vegetables, Research Report 86-06, University of Tennessee Agricultural Experiment Station, Knoxville, Tn.

Estes, Edmund, (1985), "Alternative Cash Crops: How Big Is the Market?" Analyzing the Potential for Alternative Fruit and Vegetable Crop Production Seminar, Seminar sponsored by the S-178 Technical Sommittee and Farm Foundation, New Orleans, (November 4).

Henkes, Rollie, (1987), "Light, Lean, and Natural," The Furrow, Southern Edition, John Deere, 1400 Third Ave., Moline, IL (January-February).

Nelson, Glenn, and Tom H. Robinson, (1978), "Retail and Wholesale Demand and Marketing Order Policy for Fresh Naval Oranges," American Journal of Agricultural Economics, 60 (3):

U. S. Department of Agriculture, (1985), Food Consumption, Prices, and Expenditures 1964-84, Economic Research Bulletin 736.

Zind, Tom (1986), "Fresh Trends 1987," The Packer: Focus, Vance Publishing Corporation, 7950 College Boulevard, Overland Park, Kansas (January 10).

DEGREES OF DIFFERENCES IN THE CONSUMPTION OF GOODS AND THE CONSUMPTION OF SERVICES

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This paper suggests that purchasing consumer services is more difficult than purchasing consumer goods. The differences between the consumption of consumer goods and consumer services are of degree not kind. In five areas of comparison, purchasing consumer services presents more potential problems for the purchaser than exists for purchasing goods. The five points of comparison were developed from marketing literature devoted to marketing of services and consumer education literature on evaluative criteria for purchasing goods.

INTRODUCTION

Other than from a marketing perspective, little is known about consumers and their many interactions with consumer services. There is a need to understand how consumers purchase and use services in order to develop general principles applicable to researching and teaching about consumer services. One proposed framework suggested a six step process to be used for the purchasing of most consumer services (Heinzerling & Barsness 1985; Heinzerling & Barsness 1986). Most of the literature about consumer services is available in popular periodicals but the coverage is limited to only a small number of consumer services and the orientation is generally a "how to" approach with virtually no development of general principles to be transferred to the purchasing of services in general. Academic writing on this topic is limited. Yet, consumers are buying greater quantities of ever expanding service offerings and consumer educators, researchers and writers need to keep pace.

The techniques commonly useful in shopping for consumer goods are proabably inadequate in shopping for consumer services. In one study, consumers reported that the purchase of credit and physician care were difficult because of the lack of information, infrequent use of the services and limited numbers of suppliers (ARCO 1983). An observation from a study on financial services was that while consumers were more sophisticated in shopping for financial services, a high level of uncertainty in that area remained (Fernstrom 1984).

On five different points of comparison, the purchasing of consumer services is demonstrated to be more difficult than the purchasing of consumer goods. The five areas of comparison, taken from the marketing and consumer education literature are: the human component; product/performance information; price information; payment procedure; and protection/rights. The differences between the consumption of services and that for goods are ones of degrees not of kind. Within each of the five areas of comparison, more specific facets of differences have been developed.

Many consumer services are linked to consumer goods, for example the permanent used by the hairdresser or the fertilizer used by the lawn care servicer. Thus, it is useful to see goods and services on a continuum with the majority of consumer purchases actually being a combination of a good and service. However, in the field of economics goods are distinguished from services, and in the marketing literature, "A good is an object, a device, a thing; a service is a deed, a performance, an effort." (Berry 1980) Kotler and Bloom (1984) defined a services as:

> ...any activity or benefit that one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to a physical property.

Yet, relatively little attention has been paid to the education of consumers about purchasing services or to researching and writing on consumer services from a purchasing viewpoint. The rapid development and expansion of new services in recent years, for example, the urgent care health centers and personal shopping services, have intensified the need to address purchasing consumer services.

This paper compares purchasing services with the purchasing of goods. As Berry (1986) stated, "The pivotal difference between goods businesses and services businesses is that goods businesses sell things and services businesses sell performances." It is the special characteristics of these performances which need to be devleoped.

Four characteristics distinguish the marketing of consumer services from that of consumer goods. Intangibility, the lack of being able to use the senses in the same manner as is done with goods, is seen as the major difference (Bateson 1979). The inseparability of production and consumption, heteroegeneity, and perishability are the other three characteristics (Zeithaml, Parasuraman and Berry 1985).

The purchasing of goods and of services can be assessed on five major points of comparison. From a purchaser's viewpoint it is the degree of differences on these five points which complicates the purchasing of services. Figure 1 presents a summary of these five areas and additional facets within each area.

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HUMAN COMPONENT

Human factors are prominent in the purchasing of services. The producer is often the service provider and is frequently present when the consumption occurs. Whereas a car may be produced in Detroit but consumed in San Antonio, the lawyer is with the client in court, the waiter is present when serving the meal, and the cosmetologist is cutting the client's hair. Goodwin (1986) proposed a classification of services based on role relationships which evolve in the service encounter. The dimensions of the consumer's perception of the amount of power the consumer is able to exert in the specific situation and the amount of commitment the consumer feels to the service provider were specifically examined. A college student may not feel she has a significant amount of power when dealing with a professor but feels signficiantly committed to her education whereas, the consumer of dry cleaning services seldom feels signfiicant commitment to the dry cleaning establishment and does recognize the economic power she possesses.

Due to a lack of objective performance criteria, consumers may overemphasize the human element in the purchasing of services. The human component may be so greatly emphasized that the consumer fails to consider other product and/or performance information which is available. The services of a physician therefore may be chosen because of a good bedside manner not because of board certification or an interior designer selected because he happens to be a friendly neighbor. Zeithaml (1981) proposed eleven different hypotheses delineating differences in consumer evaluation processes between goods and services. She hypothesized that consumers rely more on information from personal sources and perceived greater risks in purchasing services than in purchasing goods.

PRODUCT/PERFORMANCE

From a purchasing viewpoint, it appears that in the area of product and/or performance information the consumer of services has significantly less information and fewer credible sources. The intangibility of services has been stressed in the marketing literature (Bateson 1977; Berry 1980; Dearden 1978; Johnson 1969; Lovelock 1981; Parasuraman 1986; Rothmill 1966; Sasser 1976; and Thomas 1978). Generally, the definition of intangibility includes the idea of a lack of physical properties to be seen, felt, heard, tasted and smelled. The concept can also include the complex cognitive properties which are involved in purchasing many services: using legal and/or medical services for example, involves the exchange of thoughts between the consumer and the service provider and those thoughts may not be easily defined, formulated, or grasped mentally (Berry 1980). A set of evaluative criteria developed for the purchase of a consumer service cannot rely on tangible elements as can be done for buying a VCR or dishwasher.

Since the provision and consumption of services is a performance, it is frequently difficult to communicate about that performance other than in terms of the individual consumer's own experiences. As Leong (1986) suggested, consumers are less able to communicate to others a knowledgeable representation of services. Consumers of goods have seen many refrigerators, cars, and other products and in discussing specific products they can go beyond just describing their own Chevrolet. Consumers of services, however, tend to communicate by using their own experience as the example of that consumer service because they do not have well developed symbolic representations of services. One result is that the rate of adoption of innovations in services is slower than that for products. Zeithaml (1981) has even hypothesized that consumers attribute some of their dissatisfaction with services to their own inability to specify or perform their part of the service and may even complain less frequently about services due to a belief that they are partly responsible for the dissatisfaction.

Nonstandardization of services is considered as heterogeneity in the field of marketing (Berry 1980; Zeithaml, Parasuraman, & Berry 1985). Standardization in the area of consumer goods is widespread and creates problems of product differentiation for manufacturers and marketers, but fewer problems for consumers. The lack of standardization is common to many service fields. Some service areas have developed licensure and certification to partially address the problem of nonstandarization, but the majority of service fields lack even these means. Even with certification and licensure as potential criteria, however, consumers must learn to question who grants the certificate or license and what standards are used. An additional problem is that a service provider cannot totally standardize his/her behavior. Thus, the performance of a service provider may fluctuate among individual consumers and even with a single consumer, the provider's performance certainly varies over a period of time.

Perishability is defined as the inability to purchase a service prior to need and inventory or store it. The concept also includes the lack of anything to return for refund. While the problem of perishability may not be a major one from a consumer's viewpoint, it does occur when the need for the service arises at a time when the consumer's financial and/or other resources are inadequate to handle the purchase. For example, when a major appliance requires repair or a family needs to purchase mental health counseling. Preneed sale of funeral services, the extensive development of credit and various forms of insurance can all be viewed as means of combating the problem of perishability.

The independent product testing of consumer goods has existed since the late 1920s. However, performance information on services is extremely limited. One impediment to measuring services objectively is that the majority of services is generally available only locally or regionally. Since 1974 the Center for the Study of Services has been offering independent assessment of service providers' performances in Washington, D.C. and later in San Francisco. It is thus possible to develop objective criteria for performance assessment of service providers, but such development has not occurred for the majority of consumer services. One result is that the consumer frequently relies on another consumer's opinion, and marketers have responded by encouraging the use of word-of-mouth communications thus further obscuring the use of objective peformance criteria (Zeithaml, Parasuraman & Berry 1985).

The majority of consumer services is characterized by simultaneous production and consumption. The consumer becomes a part of the process of production while simultaneously consuming, for example, a haircut or a mental health counseling session. Thus, the consumer is forced into a more intimate contact with the service provider and may only learn part way through the process that this service provider is not appropriate for him. For example, a consumer may engage an attorney to obtain a divorce and become dissatisfied during the process. This may mean that the cost of changing a service provider is higher than it would be for changing a goods provider.

While some national brands do exist in service areas, most notably in the transportation sector and hotel/motel area, brand names and/or labels are uncommon in most service fields. Without specifying any value judgments about brand name labeling, the lack of it does influence the consumer's ability to obtain and use it as a minimum standard of performance. If a satisfactory brand for a particular service has been found, Zeithaml (1981) hypothesized that greater search costs and monetary costs may be involved in the changing of brands and thus, consumers may switch brands less frequently than with goods. Additional problems include monetary fees which may accompany brand switching, for example, the initial deposit or membership fee with the new health spa and the additional time and patronage required before the service provider "knows" the consumer. In the absence of a national brand, it has been suggested that consumers use price and physical facilities as the major cues to service quality. (Zeithaml 1981).

PRICE INFORMATION AND PAYMENT PROCEDURES

Prior to purchase, obtaining definitive price information for goods is generally possible. Obtaining definitive price information in service areas, however, is often quite complex and difficult. The homeowners who desire to add a room to their existing home will generally only receive an estimate from the architect prior to the final rendering. Thus price as an evaluative criteria for selecting an architect has limited usefulness because the lowest estimate may not ultimately be the lowest price. The use of third party payors further complicates discussion and understanding of prices. Installment credit is not as regularly extended in the services area as in the goods area, and if it is extended the terms might not be clearly stated at the onset despite, in many situations, the availability of protection from the Consumer Credit Protection Act.

While a variety of factors affect the ultimate price of consumer goods, theoretically in a market economy competition is a signfiicant factor. In pricing consumer services, however, cost-oriented pricing strategies may be used more frequently than competition-and-demand oriented pricing strategies (Zeithaml, Parasuraman & Berry 1985). The hair dresser or piano teacher who principally has only his/her time to sell must emphasize that limited time in computing the cost of the service.

CONSUMER PROTECTION, RIGHTS AND RESPONSIBILITIES

This final major area of comparison between purchasing goods and services can be the most crucial area from the consumer's viewpoint. Warranties and readily available redress mechanisms generally exist for consumer goods. Most states have laws on retail selling practices and have adopted the Uniform Commercial Code for sales so that legal rights exist for the consumers of goods. Significant and long standing federal and state laws and regulations govern the production of consumer goods.

For consumers of services, however, few of these protections exist. Where state statutes do exist, the applicability and scope of coverage are generally quite specific, for example, statutes on prepaid entertainment contracts or sales made within the home. Nor have authorities broadly applied and interpreted retail sales practices statutes and other consumer protection laws to cover consumer services. Thus, the consumer who experiences a complaint with an interior designer or a dry cleaner or a home contractor may find no redress mechanism and no specific consumer oriented regulation or law to utilize for assistance.

IMPLICATIONS

This paper has set forth the differences between purchasing consumer goods and purchasing consumer services from a consumer's orientation. Five areas of comparison were discussed. Within each of the five areas additional points of differences in the consumption of services from that of goods was developed. This framework could be utilized in consumer education to: develop curriculum on the topic of consumer services; teach general principles applicable to purchasing consumer services; develop evaluative criteria for consumer services; offer insights and assistance for post-purchase situations; and improve the written materials on the selection of consumer service providers.

Considerably more research from a marketing orientation has been conducted on these points of comparison than exists in the consumer education education literature. Consumer oriented researchers need to verify these points of comparison and research is needed on those points not found in the marketing literature but proposed herein. Research is also needed to determine if these differences actually create problems for consumers and how consumers overcome such problems. The indications are that consumers will continue to increase their purchases of an expanding array of consumer services. Thus consumer educators and researchers need to be more active in the exploration and dissemination of information on consumer services.

REFERENCES

American Express Company. (1983). Financial services innvoation and the American consumer. New York: Author.

Atlantic Richfield Company. (1983). Consumerism in the Eighties. Los Angeles: Author.

Bateson, J. E. G. (1977, December). Do we need service marketing. Marketing consumer services: New insights (Report No. 81-1502). Cambridge, MA: Marketing Science Institute.

_______. (1986). Big ideas in services marketing. In M. Venkatesan, D. Schmalensee, & C. Marshall (Eds.), Creativity in services marketing: What's new, what works, what's developing (pp. 6-8). Chicago: American Marketing Association.

Booms, B. H. & Bitner, M. J. (1981). Marketing strategies and organization structures for service firms. In J. H. Donnelly and W. R. George (Eds.), Marketing of services (pp. 47-51). Chicago: American Marketing Asosciation.

Consumers Union. (1977). Guide to consumer services. Mount Vernon, NY: Author.

Dearden, J. (1978, September-October). Cost accounting comes to service industries. Harvard Busienss Review, 56, 132-140.

Fernstrom, M. (1984). Consumerism: Implications and opportunities for financial services. New York: American Express Comapny.

Goodwin, C. (1986). Using consumer's roles to classify services. In M. Venkatesan, D. Schmalensee, and C. Marshall (Eds.), Creativity in services marketing: What's new what works, what's developing (pp. 159-163). Chicago: American Marketing Association.

Heinzerling, B. & Barness, A. (1985). The consumption of services: a proposed framework. In Proceedings, 14th Annual Conference for the Southeastern Regional Conference for Family Economics/Home Management (pp. 81-83) Baton Rouge, LA.

__________ & Barness, A. (1986). Use of framework for the consumption of services: selecting providers of financial planning services. In K. Schnittgrund (Ed.), Proceedings ACCI 32nd Annual Conference (pp. 215-217). St. Louis, Missouri: American Council on Consumer Interests.

Johnson, E. M. (1969). Are goods and services different? An exercise in marketing theory. Unpublished doctoral dissertation, Washington University, St. Louis.

Kotler, P. & Bloom, P. (1984). Marketing professional services. Englewood Cliffs, NJ: Prentice Hall, Inc.

Leong, S. M. (1986). The effects of knowledge representation on the classification of services: A conceptual analysis from an information processing perspective. In M. Venkatesan, D. Schmalensee, & C. Marshall (Eds.), Creativity in services marketing: What's new, what works, what's developing (pp. 164-168). Chicago: American Marketing Association.

Lovelock, C. H. (1981). Why marketing management needs to be different for services. In J. H. Donnelly and W. R. George (Eds.), Marketing of services (pp. 5-9). Chicago: American Marketing Association.

________. (1984). Services marketing: Text, cases and readings. Englewood Cliffs, NJ: Prentice Hall.

Parasuraman, A. (1986). Customer oriented organizational culture: A key to successful service marketing. In M. Venkatesan, D. Schmalensee, and C. Marshall (Eds.), Creativity in services marketing: What's new, what works, what's developing (pp. 73-77). Chicago: American Marketing Association.

Rothmill, J. M. (1966, October). What is meant by services. Journal of Marketing, 30, 32-36.

Sasser, W. E., Jr. (1976, November-December). Matching supply and demand in services industries. Harvard Business Review, 133-140.

Thomas, D. R. E. (1978, July-August). Strategy is different in service businesses. Harvard Business Review, 56, 158-165.

Zeithaml, V. (1981). How consumer evaluation processes differ between goods and services. In J. H. Donnelly and W. R. George (Eds.), Marketing of services (pp. 186-190). Chicago: American Marketing Association.

________, Parasuraman, A., & Berry, L. L. (1985, Spring). Problems and strategies in services marketing. Journal of Marketing, 49, 33-45.

FIGURE 1

CONSUMPTION OF SERVICES
DIFFERENCES BETWEEN PURCHASING GOODS AND PURCHASING SERVICES

Points of Comparison

Human Component:	Goods	Services
Perception of Control	With consumer	With provider
Degree of Commitment	Low	Wide range
Role of Human Relations	Not dominant	Dominant
Perception of Roles	Insignificant	Significance varies
Product/Performance:		
Tangible	yes	Lack of physical properties, complex cognitive properties
Communicable	Easy	Difficult
Standardized	Common	Nonstandardized within a service area and by a service provider
Perishability	Not a problem	Cannot inventory nor return or refund
Product testing	Readily available	Limited performance information
Prepurchase Information	Readily available	Simultaneous production and consumption
Price Information:		
Availability	Readily	Difficult to obtain and compare
Determination of	Competition and demand oriented	Regulated, may be monopolies and cost oriented
Payment Procedure:		
Knowledge of procedure	Clearly stated	Appropriateness of discussion
Credit	Generally available	Infrequent and third party payment
Protection, Rights:		
Warranties	Generally available	Limited
Redress mechanisms	Generally available	Limited
Legally available Consumer rights	Generally available	Limited
Federal and State regulation	Widespread	Limted State regulation

GOODS VS. SERVICES: FROM THE PERSPECTIVE OF CONSUMER SPENDING

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This paper examines the phenomenon of the American economy shifting towards a service economy from the perspective of consumer spending. The first section analyzes aggregate data from the Consumer Expenditure Survey with other national sources for the period 1972-73 to 1984-85. Consumers painted a less services-oriented picture of the economy than that painted by employment or output. U.S. consumers have allocated an increasing share of their spending dollar to services. Overall total consumer expenditures are divided evenly between goods and services. The second section focuses on the allocation of spending between goods and services for subgroups of the population defined by age and by income in 1985. It is found that these subgroups have generally behaved much like the population as a whole.

INTRODUCTION

In recent years, a major theme which has emerged in tracing the American economy has been the basic shift from the production of goods to the provision of services. Images of shut-down steel mills and laid-off auto workers are juxtaposed with burgeoning strips of fast-food restaurants and magical bank cards that instantaneously provide an array of financial services. Indeed, the heralded advent of the 'service' economy has evoked both choruses of cheers and cries of consternation among the popular media and professionals in the social science arena. An increasingly services-based economy affects the presciptions for public policy and private action offered by economists, educators, and information specialists in the consumer field. This paper hopes to shed some light on the character of this transformation by accomplishing two objectives.

OBJECTIVES OF THE STUDY

The first objective is to determine whether and to what extent sources of economic data, with special focus on consumption data from the Consumer Expenditure Survey (CEX), corroborate the popular conception of a "service" economy. Most reports detailing the shift toward services cite national trends in employment statistics to support this view. But an alternate picture of the economy from the consumption perspective may be different. As Stanback (1981) observed, "The popular notion that we now live in a service economy, in the sense that consumer services purchased directly in the marketplace constitute a major share of our budgets, is simply not borne out by the facts (p.25)". In addition, other national sources of time-series data, such as gross national product data from the Department of Commerce, are frequently cited as measures of economic activity, providing their own distinctive view. What kind of pictures develop when one looks at these alternative sources and how do they compare with that taken through the consumption lens?

To focus more sharply on the distribution of consumer spending between goods and services by examining the expenditure patterns of selected subgroups of the population comprises the second objective of this paper. Using CEX characteristics data, age of household head and quintiles of income before taxes are chosen to segment the population into groups that provide fruitful insights into the economic behavior of consumers.

Before proceeding further, a brief definition of goods and services should be given. Goods are essentially tangible objects which consumers can purchase for their own or some other party's use. Services are essentially intangible objects, normally actions performed for the benefit of consumers, which consumers may buy.

GOODS VS. SERVICES: ANALYSIS OF FOUR AGGREGATE NATIONAL MEASURES

Using the period from 1972-73 to 1984-85 as a time frame, this paper will examine four different yardsticks which gauge the division between goods and services. These are: 1) the Consumer Expenditure Survey, 2) Personal Consumption Expenditures from the National Income and Product Accounts (PCE), 3) the Current Employment Statistics program (CES), and 4) Gross National Product from the National Income and Product Accounts.

The CEX is a household survey consisting of two distinct components: 1) a Diary or recordkeeping survey and 2) a quarterly Interview panel survey. Data from the Interview survey are analyzed in this paper. About 95 percent of total consumption expenditures are collected, excluding expenditures for nonprescription drugs, household supplies and personal care items. For the purposes of this study, expenses for personal insurance and pensions have been excluded as components of consumption. Expenditures are defined as the transaction cost, including taxes, for goods and services acquired by the household for non-business purposes. The CEX considers only direct, out-of-pocket expenses. This impacts areas such as medical care, where a household's expenditures may represent only a small part of the actual cost of goods and services received. In addition, any indirect expenses subsumed in the purchase of the final item are not considered. For instance, expenditures made for many goods actually reflect services used to bring the goods to the consumer. These intermediate costs cannot be separated.

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A different concept of aggregate consumption emerges when studying PCE.[1] Total national production of goods and services is estimated and then allocated to intermediate users and to final demand. Purchases of goods and services by individuals, the operating expenses of nonprofit institutions serving individuals, and the value of food, fuel, clothing, rent of dwellings and financial services received in kind by individuals compose the PCE universe.[2]

The consumption data collected in the CEX and PCE primarily reflect purchases of output from the private economy. Most public goods and services are not bought explicitly by consumers and consequently do not appear in the data. Thus, to standardize the four measures used in this analysis, the contributions of government to consumption, employment, and national product will not be considered.

Employment is another yardstick by which to measure the shift to services in the national economy. Employment data from the Current Employment Statistics program of BLS is used to analyze the proportion of workers employed in goods and services production respectively. Only non-agricultural employees are included in the CES program. Not covered by this data are proprietors, the self-employed, unpaid volunteer or family workers, farm workers and domestic workers. The 1972 Standard Industrial Classification Manual is used to organize employees into goods-producing and services-producing sectors.[3]

In addition to consumption estimates from PCE, the National Income and Product Accounts provide estimates of national product which can be organized to measure portions of output attributable to goods and services. This paper concentrates in particular on the gross market value of goods and services produced by labor and property from private industries located in the U.S. expressed in current dollars. For the sake of brevity, this will be referred to as the private industries component of gross domestic product (GDP).[4]

The Consumer Expenditure Survey

Each of the four data sources indicates a clear shift to the services sector, albeit of differing magnitude, between 1972-73 and 1984-85. Results from the CEX are depicted in Table 1. Total consumption expenditures for goods and services rose 137 percent to $1.71 trillion from 1972-73 to 1984-85. Purchases of goods demonstrated a comparable increase of 119 percent to $901 billion, while expenditures for services rose even higher, 160 percent, to $813 billion. The more rapid increase in expenditures for services pushed the aggregate share accounted for by services up over 4 points, to over 47 percent of total expenditures.

TABLE 1. Aggregate consumption expenditures and percentage share for goods and services for all households, Consumer Expenditure Interview Survey, 1972-73 and 1984-85

	1972-73		1984-85	
	Aggregate expenditures (billions)	% share	Aggregate expenditures (billions)	% share
Goods	$323.3	57.01	$ 901.1	52.58
Services	243.8	42.99	812.8	47.42
Total	567.1	100.00	1,713.9	100.00

Personal Consumption Expenditures of the National Income and Product Accounts

PCE, the counterpart to the CEX, is examined in Table 2. The shift to services can be seen in the 1984-85 data where services exceeded more than one-half of all expenditures. Total consumption expenditures increased 222 percent to $2.47 trillion from 1972-73 to 1984-85. Consumption on goods showed a healthy rise of 184 percent to $1.23 trillion, but this was dwarfed by the 273 percent increase in expenditures on services. The aggregate shares for goods and services were essentially equal, resulting from a nearly 7 point shift to services.

TABLE 2. Aggregate personal consumption expenditures and percentage share for goods and services, National Income and Product Accounts, 1972-73 and 1984-85

	1972-73		1984-85	
	Aggregate expenditures (billions)	% share	Aggregate expenditures (billions)	% share
Goods	$434.5	56.64	$1,233.4	49.86
Services	332.7	43.36	1,240.5	50.14
Total	767.2	100.00	2,473.8	100.00

The Current Employment Statistics Program

Table 3 shows the average number of workers employed in the goods-producing and services-producing sectors in 1972-73 and 1984-85 from the CES program. Although employment in the production of goods remained stable over this period, its share of total employment declined significantly. Between 1972-73 and 1984-85, the total number of employees increased 29 percent to almost 80 million workers. Almost all of the increase was reflected in the services-producing sector, where employment rose to 55 million workers, up 47 percent. In terms of aggregate shares, the services-producing sector increased its share by over 8 points to almost 69 percent of total employment.

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[1] For a fuller explanation of the differences that exist in the concept, definition, and classification of items between the CEX and PCE, see Gieseman, Raymond, "The Consumer Expenditure Survey: quality control by comparative analysis," Monthly Labor Review, March, 1987, pp. 8-14.

[2] For a more complete definition, see U.S. Department of Commerce, Bureau of Economic Analysis, The National Income and Product Accounts of the United States, 1929-76 Statistical Tables, September, 1981, pp. 89-95, or U.S. Department of Commerce, Bureau of Economic Analysis, Survey of Current Business, July, 1986, pp. 38-39.

[3] For a description of the industries in each sector, see U.S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings, July, 1987, pp. 77-88.

[4] As with the CES employment data, the industries comprising this private industry component are organized into goods and services by the 1972 Standard Industrial Classification Manual.

TABLE 3. Number of employees and percentage share in goods-producing and services-producing sectors, Current Employment Statistics program, 1972-73 and 1984-85

	1972-73		1984-85	
	Number of employees (thousands)	% share	Number of employees (thousands)	% share
Goods-producing	24,280.5	39.35	24,793.0	31.07
Services-producing	37,419.5	60.65	55,006.0	68.93
Total	61,700.0	100.00	79,799.0	100.00

Private industries component of Gross Domestic Product

Table 4 presents national output data from the private industries component of GDP. During the period from 1972-73 to 1984-85, total output from private industries rose 213 percent to almost $3.4 trillion. Goods and services each demonstrated healthy increases during the period. The value of goods produced swelled to almost $1.2 trillion, a rise of 169 percent. Services showed even more spectacular growth, touching just over $2.2 trillion, a gain of 244 percent. As a result, the share of private industry GNP attributable to services rose from just under 60 percent to over 65 percent, close to a 6 point shift.

TABLE 4. Domestic product of private industries and percentage share of goods and services, National Income and Product Accounts, 1972-73 and 1984-85

	1972-73		1984-85	
	Domestic product (billions)	% share	Domestic product (billions)	% share
Goods	$ 437.1	40.51	$1,174.7	34.74
Services	642.0	59.49	2,206.4	65.26
Total	1,079.1	100.00	3,381.1	100.00

While each data source concurs in showing a palpable shift toward services over the 1972-73 to 1984-85 period, it is also interesting to note the disparity between the "snapshot" view of the economy produced by the consumption measures versus those produced by the employment and national product measures in 1972-73, the starting point for this analysis. Table 5 amply demonstrates this divergence. Both consumption measures revealed a markedly goods-oriented economy in 1972-73 with approximately 57 percent of expenditures allocated to that sector. Even with the shift toward services exhibited by all sources, the consumption measures still showed a significantly higher percentage allocated to goods than did the employment or national product measure.

TABLE 5. Summary of percentage allocated to goods and services, and percentage shift to services, by data source, 1972-73 and 1984-85

	Percentage allocated		Percentage shift to services
	1972-73	1984-85	1972-73 to 1984-85
Consumer Expenditure Survey			
Goods	57.0	52.6	
Services	43.0	47.4	10.2
Personal Consumption Expenditures, National Income and Product Accounts			
Goods	56.6	49.8	
Services	43.3	50.1	15.7
Current Employment Statistics program			
Goods (producing)	39.3	31.0	
Services (producing)	60.6	68.9	13.7
Private industries component of Gross Domestic Product, National Income and Product Accounts			
Goods	40.5	34.7	
Services	59.4	65.2	9.8

In terms of employment and national product, the U.S. economy has been a predominantly service economy since 1972-73. Indeed, the percentage allocated to services by these data series nearly matched at approximately 60 percent.

Several factors contribute to the disparity between consumption and the other data sources. The consumption measures tend to underestimate the importance of services by focusing primarily on those services which consumers purchase directly for the benefit of themselves or others. The range of such services is markedly smaller than the range of services that workers produce. Employees engaged in business-related activities such as advertising, accounting services, and personnel supply, provide services which consumers do not generally purchase in significant amounts. Similarly consumers do not ordinarily buy services related to transportation and storage, wholesale trade, and retail trade, where numerable employees work to bring goods and services into the marketplace.

In fact, while these services may not be purchased directly, consumers frequently do purchase them indirectly. The prices charged for goods reflect the input of these services in making goods available for consumers to purchase. In buying a sofa, a consumer pays for more than just the wood, metal, and fabric which form the sofa. Included in the price are the costs of transportation and storage between the factory and the selling floor. The costs of advertising the sofa along with compensation for the salesperson selling it add to the price paid. So, the consumer's purchases of a sofa, which is considered a good, implicitly entails the purchase of a number of services. The entire expenditure, however, would be classfied under goods. In this light, the shift to services shown by the consumption measures over this time period is even more striking, since it represents expanded consumption on the limited number of services directly available to consumers from the universe of all services.

It might be argued that, by focusing on consumption only, the CEX and PCE underestimate the importance of services by not considering the effects of non-consumption or savings. In essence, this would transform the study into an 'Engel' analysis, using income rather than consumption as the basis for analyzing CEX and PCE data. While this would certainly be a useful extension of this study, certain conceptual problems and empirical limitations arise in defining and specifying savings in the CEX data base precluding this kind of analysis.

GOODS VS. SERVICES: ANALYSIS OF POPULATION SUBGROUPS FROM THE CEX CLASSIFIED BY AGE OF REFERENCE PERSON AND QUINTILES OF INCOME BEFORE TAXES

While CEX consumption data showed all U.S. households spending slightly more on goods than services in 1984-85, various population subgroups may have exhibited different spending patterns for goods vis-a-vis services. The examination of this proposition forms the basis for the descriptive analysis that comprises the second part of this paper. It should be emphasized that this section is independent of the analysis presented in the first section. The aim is not to address questions on the aggregate spending behavior of American consumers, nor to conduct an Engle-type analysis of spending by the selected subgroups.

Since the CEX collects household characteristics as well as expenditure data, these subgroups can be identified and their consumption behavior can be examined for possible differences. This analysis does not trace changes in allocation of spending between goods and services for each subgroup over time, but rather examines each subgroup in comparison with every other subgroup and the U.S. population as a whole at a particular point in time. The analysis uses the most current CEX data available for calendar year 1985. In this study, two characteristics, age of reference person[5] and quintiles of income before taxes, were chosen to divide the population into subgroups for analysis.

Age was chosen since data released from the CEX since its reinitiation in 1980 support the idea that age represents a proxy for different stages in a household's life cycle.[6]

A characteristic based on income, such as quintiles of income before taxes, is a natural choice for this kind of research. A distributional type of income measure, such as quintiles, has advantages over strict dollar income categories by defining 'lower,' 'medium,' and 'upper' income groups based on the actual dispersion of income through the country.

Table 6 displays the allocation of consumption dollars between goods and services by age of reference person and quintiles of income before taxes respectively for 1985 from the CEX. All age groups except for the 75-and-over group spent more money on goods than services. The under 25 age group showed the highest portion attributed to goods at almost 57 percent, while the 75-and-over group's expenditures on goods accounted for just over 44 percent of their consumption expenditures. The allocation of consumption between goods and services for the age groups in between fluctuated in a narrow range, revealing a distribution skewed at each end of the age spectrum.

TABLE 6. Percentage of total consumption allocated to goods and services classified by age of reference person and quintiles of income before taxes, 1985, Consumer Expenditure Interview Survey

Characteristic	Percentage allocated to:	
	Goods	Services
All households	52.3	47.7
Age of reference person		
Under-25	56.5	43.5
25-34	51.9	48.1
35-44	53.1	46.9
45-54	52.4	47.6
55-64	53.6	46.4
65-74	50.1	49.9
75-and-over	44.1	55.9
Quintiles of income before taxes		
Lowest 20 percent	49.4	50.6
Second 20 percent	51.9	48.1
Third 20 percent	53.0	47.0
Fourth 20 percent	53.8	46.2
Highest 20 percent	52.1	47.9

There were few differences in the overall distribution between goods and services among quintiles of income before taxes. Expenditures on services composed over half of total consumption for only the lowest quintile. Spending on services made up a progressively smaller share of total consumption across the first four quintiles, before rising in the highest quintile, but nothing appears of a dramatic nature.

Tables 7 and 8 have been compiled to aid in studying further the patterns displayed in Table 6. These tables present the percentage distribution of expenditures allocated to goods and services by component item categories of total consumption, such as food, transportation, and entertainment.

The dominance of expenditures for goods by the youngest households and for services by elderly households can be analyzed more thoroughly in Table 7. A comparatively large share of total consumption for goods in the transportation sector combines with a relatively small share for housing services as the major factors accounting for the higher share of total consumption allocated to goods by the under-25 group. These factors become apparent when comparing shares from the under-25 group with the 25-34 group. Expenditures on goods in the transportation sector, encompassing vehicles, gasoline, oil, tires, batteries, and similar vehicle products, made up about 22 percent of the under-25 group's total consumption versus about 17 percent for the 25-34 group. At the same time, the under-25 group spent much less on housing services as a proportion of total consumption, just 25 percent, than the 25-34 group which spent over 31 percent on housing services. With the exception of fuel oil and other fuels, and housefurnishings and equipment, all other housing expenses, whether for homeowners or renters, are considered services.

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[5] "Reference person" is the first member of the household mentioned by the survey respondent when asked to "Start with the name of the person or one of the persons who owns or rents the home."

[6] Detailed characteristics and expenditure data are available from the three bulletins of CEX Interview survey results released. See U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditure Survey: Interview Survey, 1980-81, Bulletin 2225, April, 1985; same author, Consumer Expenditure Survey: Interview Survey, 1982-83, Bulletin 2246, February, 1986; and same author, Consumer Expenditure Survey: Interview Survey, 1984, Bulletin 2267, August, 1986.

TABLE 7. Percentage of total consumption allocated to goods and services for major expenditure categories classified by age of reference person, 1985, Consumer Expenditure Interview Survey

Item	Age of reference person													
	Under-25		25-34		35-44		45-54		55-64		65-74		75-and-over	
	Goods	Serv.	Goods	Serv.	Goods	Serv.	Goods	Serv.	Goods	Serv.	Goods	Serv.	Goods	Serv.
Food	16.1	-	15.9	-	17.5	-	17.9	-	16.5	-	19.1	-	18.8	-
Alcoholic beverages	2.4	-	1.8	-	1.4	-	1.3	-	1.3	-	1.2	-	.8	-
Housing	4.0	25.3	5.5	31.6	5.4	30.1	5.6	27.2	5.4	26.3	5.7	28.2	5.2	33.3
Apparel and services	5.7	.8	5.4	.6	5.9	.5	6.0	.5	5.5	.5	4.5	.4	3.0	.4
Transportation	22.2	6.4	17.3	7.0	17.0	6.5	15.7	7.5	17.1	7.3	13.9	7.1	10.9	5.6
Health care	.3	2.9	.4	3.2	.6	3.2	.7	4.0	1.1	5.5	1.9	8.1	2.8	11.2
Entertainment	3.2	2.4	3.6	2.5	3.4	2.7	3.0	2.7	2.6	2.5	1.8	2.5	1.0	2.0
Personal care	<.05	.9	<.05	.8	<.05	.9	<.05	1.0	<.05	1.2	<.05	1.3	<.05	1.4
Reading	.5	-	.7	-	.7	-	.7	-	.8	-	.9	-	.9	-
Education	.9	3.4	.1	.9	.2	1.3	.2	2.6	.1	1.0	.1	.5	<.05	.3
Tobacco	1.1	-	1.1	-	1.1	-	1.2	-	1.2	-	1.1	-	.7	-
Miscellaneous	-	1.4	-	1.5	-	1.5	-	2.1	-	2.1	-	1.8	-	1.8
Total	56.5	43.5	51.9	48.1	53.1	46.9	52.4	47.6	53.6	46.4	50.1	49.9	44.1	55.9

TABLE 8. Percentage of total consumption allocated to goods and services for major expenditure categories classified by quintiles of income before taxes, 1985, Consumer Expenditure Interview Survey

Item	Quintiles of income before taxes									
	Lowest 20 percent		Second 20 percent		Third 20 percent		Fourth 20 percent		Highest 20 percent	
	Goods	Services	Goods	Services	Goods	Services	Goods	Services	Goods	Services
Food	20.4	-	19.2	-	17.8	-	17.2	-	15.4	-
Alcoholic beverages	1.4	-	1.4	-	1.7	-	1.4	-	1.4	-
Housing	4.4	31.7	4.9	29.3	4.7	28.8	5.7	28.1	6.2	28.6
Apparel and services	4.7	.6	4.7	.6	5.1	.6	5.4	.5	6.2	.5
Transportation	12.5	5.5	15.4	6.4	17.7	7.1	18.1	7.2	17.0	7.5
Health care	1.2	5.9	1.4	6.4	1.0	4.7	.8	4.1	.6	3.5
Entertainment	2.1	2.2	2.5	2.0	2.9	2.3	3.2	2.6	3.6	3.1
Personal care	<.05	1.0	<.05	1.0	<.05	1.0	<.05	.9	<.05	1.0
Reading	.7	-	.7	-	.7	-	.8	-	.7	-
Education	.5	2.0	.1	.9	.1	.7	.1	1.2	.2	1.7
Tobacco	1.5	-	1.5	--	1.4	-	1.2	-	.7	-
Miscellaneous		1.7	-	1.5	-	1.8	-	1.6	-	2.0
Total	49.4	50.6	51.9	48.1	53.0	47.0	53.8	46.2	52.1	47.9

Unpublished CEX data at a more detailed expenditure item level indicates the under-25 group spent more on transportation goods as a share of total consumption, because a larger percentage of this group, along with the 25-34 group, were buying vehicles--placing a higher value on mobility. Given the lower income (and total consumption) of the under-25 group, these purchases made up a larger share of expenditures.

The lower share for housing services by the under-25 group, extends to the whole housing category which is lower overall, combining goods and services, than for all other age groups. The relationship between the shares allocated to housing goods and housing services was fairly constant across age groups with expenditures for housing goods being approximately one-fifth to one-sixth as large as expenditures for housing services.

Differences in shares apportioned to housing services, health care services and transportation made a major contribution to the significant shift to services by the two oldest age groups.

Households allocated a larger portion of total consumption to health care as the age of the reference person increased with the trend accelerating as one looks at the three oldest age groups. As the elderly are most susceptible to disabilities and illnesses, this increase in share from about 6.5 percent in the 55-64 age group to 14 percent in the 75-and-over group is not surprising. With the exception of prescription drugs, eyeglasses, and other medical equipment purchases, all health care expenses are considered services. The acceleration in share apportioned to health care primarily affected services since spending on health care services was approximately 4 to 5 times larger than health care goods, this shift was of sufficient magnitude to tilt the allocation of total consumption toward services for the two oldest age group.

Households in the 65-74 and 75-and-over age groups reduced the share total consumption directed toward transportation sharply. This is particularly noticeable in the share allocated to transportation goods which dropped 6 percentage points between the 55-64 and 75-and-over age groups. The share allocated to transportation services fell less than 2 percentage points between the same two age groups.

Analyzing unpublished expenditure data shows that less than 5 percent of the 65-74 group and just 2 percent of the 75-and-over group purchased vehicles per quarter.[7] Characteristics data reflect a declining average number of vehicles owned for the two oldest age groups, reducing expenses for gasoline, motor oil, tires, and other vehicle products. As a result of the lowered expenditures for vehicles and products for vehicle operation, the share allocated by the elderly to transportation goods fell.

The share of total consumption allocated to housing services rose sharply, leading to the dominance of services in total consumption by the oldest age group. The share of expenditures made for housing services was 5 percentage points higher for the 75 and over group than for the 65-74 group. Unpublished expenditure data demonstrate that the bulk of this difference represented increased shares for basic shelter and utility expenses.

In addition, expenditures for domestic services, which include housekeeping services and general care for the elderly, for the 75 and over group accounted for a 3.5 percent share of total consumption, considerably more than for all other age groups.

The absence of notable differences in the distribution of goods and services by quintiles of income before taxes extends to major components of consumption as can be seen in Table 8. Only a few components showed any pattern. Expenditures on food dropped as a share of total consumption from 20.4 percent to 15.4 percent, tracking from the lowest to highest quintile. All food expenditures, both at home and away from home, are considered goods. This drop in share for food ran counter to the trend of increasing share that total goods represented of total consumption reflected in the first four quintiles. However, this result also confirms that food became progressively less important as income levels increased.

The drop in share allocated to food was compensated for by a substantial increase in the share of total consumption allocated to expenditures for transportation goods. Most of this increase in share was due to a rise in share allocated to vehicle purchases, particular noticeable between the lowest and third quintiles. Unpublished CEX expenditure data reveal the percent of households reporting purchasing vehicles rose from over 4.5 percent per quarter for the lowest quintile to over 11.5 percent per quarter for the highest quintile. Characteristics data show a supporting increase in the average number of vehicles owned across quintiles.[8]

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[7] Selected demographic characteristics classified by AGE OF REFERENCE PERSON

	All CU's	Under 25	25-34	35-44	45-54	55-64	65-74	75 and over
Number of CU's (thousands)	91,564	8,146	20,478	18,527	12,712	13,056	11,302	7,343
Size of CU	2.6	1.8	2.7	3.4	3.1	2.4	2.0	1.6
Age of ref. person	46.8	21.4	29.6	39.1	49.2	59.5	69.3	80.7
Number of earners	1.4	1.2	1.5	1.8	2.1	1.4	.6	.2
Number of vehicles	1.9	1.1	1.8	2.3	2.7	2.2	1.6	.9
Children under 18	.7	.4	1.0	1.4	.7	.2	.1	.0
Persons 65 and over	.3	.0	.0	.0	.0	.1	1.4	1.4

Consumer Expenditure Survey, Interview Survey, 1985.

[8] Selected demographic characteristics classified by QUINTILES OF INCOME BEFORE TAXES

	All CU's	Complete reporting of income					
		Total	Lowest 20%	Second 20%	Third 20%	Fourth 20%	Highest 20%
Number of CU's (thousands)	91,564	81,221	16,199	16,259	16,232	16,255	16,276
Size of CU	2.6	2.6	2.0	2.3	2.5	2.9	3.2
Age of ref. person	46.8	46.6	49.2	50.9	45.3	43.1	44.6
Number of earners	1.4	1.4	.8	1.0	1.4	1.7	2.2
Number of vehicles	1.9	1.9	1.0	1.5	1.9	2.4	3.0
Children under 18	.7	.7	.5	.6	.7	.8	.9
Persons 65 and over	.3	.3	.4	.5	.3	.2	.1

Consumer Expenditure Survey, Interview Survey, 1985.

A number of factors contributed to the finding that the lowest quintile alone spent over half of their total consumption on services. First, lower income households were likely to allocate a greater share of their expenditures to necessities, such as food and shelter. Expenditures on both food and housing services in Table 8 confirm this view.

Second, expenditures on health care services commanded a noticeably higher share of total consumption for the lowest quintile (and the second quintile) than for all other quintiles. A look at the average age of the reference person for these quintiles indicates the presence of a sizable number of elderly households who typically spend more on health care.[9]

Finally, expenditures on education, and particularly educational services, weighed more heavily in the composition of total consumption for the lowest quintile households. This result demonstrates a dichotomy in the age composition of households in the lowest quintile. While over 30% of the households in this quintile were headed by reference persons 65 and over, fully 1/5 had heads under 25 years old. Student CU's, newly added to the sample, tend to have lower incomes, and direct a major share of their outlays toward tuition and other school-related expenses.

In summary, analysis of the distribution of consumption expenditures for goods and services by population subgroups defined by age of reference person and quintiles of income before taxes, has yielded some useful insights. First, in general, the shares of total consumption allocated to goods and services did not seem to fluctuate widely within the subgroups defined by each characteristic studied here, nor did these shares vary greatly from the percentages derived for the U.S. population as a whole. Four of the seven age groups and four of the quintile subgroups exhibited percentages allocated to goods and services within 2 percentage points of the distribution for all households.

This leads to the second observation that the subgroups whose distributions of expenditures between goods and services deviated furthest from the distribution for all households were located at the "ends" of the distribution for each characteristic. When examining subgroups defined by age of reference person, the youngest (under-25) and the oldest (65-74 and 75-and-over) displayed the distributions that differed most greatly from the percentages allocated by all households. In the case of quintiles of income before taxes, the distribution exhibited by the lowest quintile varied most from the all households' distribution.

Finally, to explain patterns of spending among the population subgroups, invariably the analysis turned to changes in the allocation of expenditures between goods and services for transportation and housing. The goods and services consumers could purchase from these categories included a number of "big ticket" items. In the transportation section, this was a good such as a car or truck; in the housing area, the purchase, maintenance and upkeep of a home or rental of an apartment qualified as a service. Expenditures for these items were large enough to forego the purchase of alternative goods and services by consumers. In addition, those subgroups whose distribution of expenditures deviated furthest from the all households' distribution did so due to the relative absence or presence of these 'big ticket' items in their consumption profiles.

In conclusion, this paper demonstrates that the study of consumption data, like that collected in the CEX, can provide a unique perspective of economic phenomena that may differ from conventional wisdom. In assessing the reported transition of the American economy from being goods-oriented to services-oriented, the data presented here support the proposition that over the 1972-73 to 1984-85 period, services played an increasingly important role, regardless of whether that role was measured in terms of national consumption, employment, or output. It is also clear that from the standpoint of consumption, services did not dominate the picture as they did in employment and output. In 1985, American consumers divided their spending almost equally between goods and services. This was due, in large part, to the narrower focus of the consumption measures toward services. That consumers still allocated an increasing share of their consumption dollar to services over the 1972-73 to 1984-85 period is noteworthy.

In addition, this "macro" view of American consumer behavior can be refined to "micro" views by further examination of CEX data for subgroups of households defined by age of reference person and quintiles of income before taxes. The results here did not show many substantial differences between the behavior of these subgroups and all U.S. households.

REFERENCES

Stanback, Thomas, Jr., et al. (1981). Services: The New Economy. New York: Rowman & Allenheld.

U.S. Department of Commerce, Bureau of Economic Analysis. (1986). Survey of Current Business, Vol. 66, No. 7. Washington, D.C.: U.S. Government Printing Office, (July).

________. (1981). The National Income and Product Accounts of the United States, 1929-76 Statistical Tables. Washington, D.C.: U.S. Government Printing Office, (September).

U.S. Department of Labor, Bureau of Labor Statistics. (1987). "Consumer Expenditure Survey Results from 1985", USDL: 87-399, Washington, D.C.: U.S. Government Printing Office, (September 24).

________. (1987). Consumer Expenditure Interview Survey, 1985, unpublished data, (July 30).

________. (1987). Employment and Earnings, Vol. 34, No. 7. Washington, D.C.: U.S. Government Printing Office, (July).

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[9] See Note 8.

CONSUMER DEMAND FOR GOODS AND SERVICES: DISCUSSION

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The three papers presented in this session examine how we analyze consumer demand for goods and services. Each presents new perspectives on definitions, measurements, and methods for studying consumer choices. The discussion focuses on additional research questions and issues raised by the papers.

Each of the excellent papers in this session shares a common set of themes related to the ways we study consumer choices. All three papers examine the definition and measurement of goods and services demanded by consumers. The approaches taken in each paper differ significantly, however. This discussion, therefore, reviews each paper separately.

Eastwood and Brooker have provided an outstanding blend of economic theory and market research in "Estimating Demand Relationships Between Close Substitutes Using Limited Observations From Marketplace Experiments." Their work goes beyond the experimental economic analyses pioneered by Vernon Smith and others to a practical and applied, yet methodologically elegant, observation and analysis of consumer choice making behavior in an actual market setting. In addition to providing a good example of economic research in the market, the paper also is characterized by outstanding clarity of exposition and focus on an interesting and valuable issue in consumer choice.

There are several aspects of the experimental design that may aid in interpreting the results. For example, the physical layout of the products in the market needs to be discussed more fully. Although the authors describe the experimental and control groups, there is no information about the order in which the consumer meets the products to be chosen. This may influence the tendency to chose one product over another. Also, the actual physical characteristics of each product, that is similarities in color, size, and firmness of the products, may influence choices, independent of the experimental treatment and design. Therefore, these qualities need to be more fully elaborated in the paper.

Future studies of this type need to include a sample of sufficient size to analyze the separate effects of price changes, product characteristics, and promotion. In the current study, the analysis of an important set of variables was obfuscated by sample size; the joint effects of logo application and localness of the products were combined because it was not possible to separate the measurably subtle effects of each. A larger number of trials may have alleviated this problem.

The findings presented by Eastwood and Brooker are remarkably supportive of the popular perception that consumers are willing to pay for quality, or perceived quality. Their work should be helpful to farmers and other producers of hard to differentiate products as they develop new approaches to marketing their products.

Barbara Heinzerling's paper on "Differences Between Goods and Services From a Consumer Perspective," reviews five dimensions from which to analyze consumer services--human factors, product/performance, price information, payment procedure, and protection and rights. These dimensions are especially useful to educators and program planners as they develop classification schemes for discussing consumer choice making in the services market.

Heinzerling might want to consider expanding the typology to one that would be useful in classifying consumer transactions for research and theoretical development purposes. For example, based on the dimensions she presents, is there a method to classify borderline expenditures as either more like services or more like goods? Could meals away from home be classified as a service or a good in such a scheme? How would electricity be classified?

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[1] Program Scientist

Similarly, given the basic literature review and conceptual analysis underlying the Heinzerling paper, are there other classification approaches that could be developed to analyze additional dimensions of services? Could services be viewed on the dimension of durability, with something such as education classified as a durable service and entertainment as a nondurable? This type of system would aid researchers in analyzing spending for services using traditional economic models. Similarly, could the luxury/necessity continuum be incorporated in the classification and analysis of services? Heinzerling's thought-provoking discussion of the dimensions of services is an excellent catalyst for the further development of typologies necessary for the systematic analysis of consumer decisions related to the purchase and use of services.

"Goods vs. Services: From the Perspective of Consumer Spending," by William Passero, is an ambitious analysis of several sources of national economic data. The mission of the paper is two-fold. First, Passero attempts to illustrate that the service economy, while growing by all measures, is not burgeoning at the same rate on the consumption side of the ledger as on the labor side. Second, he illustrates that service expenditures are stable across household types.

This is a comprehensive review of the major sources of economic data at the federal level which include information on the service sector. The paper is rich in data presented in sufficient detail for the reader to examine and rework the information for insights beyond those summarized in the text. This is both a strength and weakness in the paper, for it provides the evidence needed for criticism.

When reviewing and comparing four sources of data to illustrate the relative importance of the service sector in the economy as a whole, it is critical that the data be comparable or that careful procedures be employed to standardize the variables compared. This turns out to be nearly impossible given the data used by Passero. Some of the problems may be offsetting. For example, the employment data include only those in nonagricultural jobs, which adds a slight bias to service rather than production jobs. At the same time, this limitation is compensated by the generally better measurement of production jobs which may bias the data in the opposite direction.

Passero notes that expenditures for goods often include a service component for the distribution and marketing of the product. Thus, expenditures for many consumer products, if classified solely as goods spending, may understate the service component of many items in the market. This understatement is even greater in the classification of complicated expenditures which may have a large, but difficult to isolate, service component, such as food-away-from-home. For the purposes of this analysis, Passero consolidates all food expenditures, counting food-away-from-home expenditures as a good, despite the fact that such expenditures contain a large service component. Given the growing importance of this category of expense, such a classification scheme will create inequities between consumption and earning data, resulting in the impression that the service sector has grown more rapidly in jobs than in spending.

There are many additional research questions raised by the analyses presented by Passero. His work on differences in expenditure patterns by households with varying characteristics could be expanded to include a measure of employment density, perhaps measured as the ratio of the number of earners to the number of adults in the household. This would address the issue of how two-earner families and single parent families manage time pressures through adjusting spending for services. Although Passero's analyses convincingly demonstrate the remarkable stability of spending for services across household types, the Consumer Expenditure Survey data, which Passero reviews in this paper, holds a wealth of information for multivariate analyses needed to reveal the subtleties perhaps masked in the descriptive statistics.

SOME THOUGHTS ON CAREER DEVELOPMENT FOR CONSUMER AFFAIRS STUDENTS

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Because the field of consumer affairs is so diverse and poorly understood, student majors need stronger career development programs while in school. Consumer studies faculty hold the key to improvement in the direction of the career development process, while students bear the responsibility for most of the necessary "homework."

Academics in the field of consumer studies are still trying to define it and reach consensus on its body of knowledge (Goebel & Miller 1983). Should we be surprised if consumer affairs students are confused about career options open to them? Are we doing all we can and should do to prepare our majors for lifelong career patterns that will be personally satisfying while also serving consumer well-being? Since I have collected no data from various programs or their students I cannot answer that question for you. But I suspect there is room for improvement as there was and is in my own curriculum.

This paper will describe a model of career development most of us have been operating under. Special attention will be paid to the parties we have assumed should have primary responsibility for career development and what the strengths and weaknesses of that model are. The discussion will culminate with a listing of "coulds" and "shoulds" for improved faculty contributions to students' career development processes.

WHAT IS CAREER DEVELOPMENT?

Before I get to that discussion, however, some clarification is in order. First, there is a difference between consumer education and career preparation. The 1984 Journal of Consumer Affairs index to ACCI publications makes a distinction and a comparison shows there are far more entries for consumer education articles and papers than for those on careers for consumer affairs professionals (CAPs). This indicates academics have been particularly focused on educating for the consumer role both directly with our own students and for any subsequent students they may serve.

Certainly skills useful to consumers often are necessary for professionals. The ability to make a request or take a position through organized and articulate written and oral communication is equally useful for both roles. Similarly, analytical decision-making skills are invaluable for professionals as well as consumers. But the transfer of such skills between the two roles is not automatic.

Another important distinction is that between job training and career development. Training for an entry level position, similar to job placement assistance, is akin to giving a student a fish rather than teaching him/her to fish. The often repeated predictions about the frequency of job and career changes during most workers' adult lives should be of special concern to those of us teaching and preparing to be CAPs, since we know the potential for our graduates to reach positions of influence on behalf of consumers will likely be realized only through a series of deliberate career moves. Bolles writes that the purpose of career and life planning is

> ...to take a long view of a person's life--so that one can avoid short-term, band-aid thinking. It involves building in Alternative Options, from the beginning. Like, in high school or college (Bolles, p 65).

Single minded preparation for entry level jobs severely limits the alternative options students have to fall back on. Such limitations may be real in that an individual can perform only certain tasks in one environment. More likely, the limitations are attitudinal in that the worker or student doesn't realize what skills he/she has and their transferability, a point I will return to later. Thus, faculty need to emphasize and students need to appreciate the importance of preparing for a number of career stages whether they are desired or unexpected.

Rather than focusing on vocational choice alone, ideally career development deals with a person's whole life mission and identity rooted in goals, values, and priorities (Bolles, 1977). Formal education contributes to that process by helping students get clearer ideas about "the way the world works" and what needs to be done to make it work better. And when course assignments and experiences challenge students' cherished but irrational ideas, they assist in the value clarification process.

But I strongly suspect that consumer studies faculty could do a better job, especially with the process of reality testing. For example, our student majors need a better sense of what skills they have (and what to label those skills since that aids in their self-marketing during job searches). But perhaps it is more important to test the reality of whether and where they can earn an income doing what they desire and are able to do! In our role as consumer educators, we help familiarize consumers with the available options and means for information seeking and processing. We do this in order to maximize individual satisfaction and optimal market functioning. Should we not be equally attentive to the marketplace of career options and worker satis-

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faction in the career preparation component of our work?

CAREER DEVELOPMENT: THE TRADITIONAL MODEL

Up to now, it has become obvious that I am critical of the career development process as it traditionally has occurred. The logical question is what's wrong with that process? The model we assume to be operating envisions partnerships among employers, career services, students/workers, and formal education. Unfortunately, the partnership often is unbalanced and the process is accidental rather than deliberate. To understand that, let's look at each of the "partners."

Employers

For most of us, employers are the final arbiters with regard to career paths since, in the marketplace for work, only certain organizations will be hiring at various points in time for specific skills. Since they need to respond to market pressures, employers, through their hiring and layoff behaviors, send messages to students, their parents, and educators about "the best" opportunities. Such messages tell us about cyclical demands for engineers, teachers, or nurses, for example.

But we also read or hear that some employers in business seek liberal arts majors because they have found such students to have good communication skills and can make better decisions taking a number of complicated, subjective factors into consideration. If relevant, educators alter curricula and courses in response to such indirect feedback as well as from direct recommendations of likely employers. (If we did not, faculty would find that our unwillingness to adjust to the work marketplace might leave us out of jobs!)

Employers' needs affect workers' career paths after entering the work force too. There is the need to satisfy supervisors and to stay up to date in one's field, regardless of career aspirations. And if an individual wants to do more than just keep his/her job, that is, if upward mobility is desired, it is vital to develop and demonstrate the skills and character traits deemed necessary for more responsible, higher prestige jobs. Third, because many workers discover other types of work or employing organizations more attractive, they do what is necessary to make themselves more employable there. Finally, workers often are forced to alter career paths when they are laid off. In one of her columns on career advise, Joyce Kennedy writes:

> Until a decade ago, you could count on staying with a bureaucracy for life. Now plant closings, downsizing, mergers and other disasters for individual workers are commonplace. Don't plan on a company being loyal to you: instead, keep your contacts and resume up to date (Kennedy, p B8).

This situation points to a major weakness of employers having so much power over our careers: at a general level we understand the need for employer discretion and flexibility but the effects often are less than humane treatment of employees. But how humane are the other influences they exert? Students and already employed individuals are expected to train and retrain, package and repackage themselves to fit employers' demands or else be left out or behind. Poor matches between jobs and workers result from inefficiencies in the traditional model of allowing uninformed or overly casual employers to be the arbiters. I'm sure there are others who have seen consumer affairs graduates being judged on the basis of a biased notion or limited knowledge about what their major means they can or will do.

And, when employers' criteria play too important a role in the choice of a major and the way students experience their educations, considerable dissatisfaction may result because workers end up in the "wrong" career and may not be very adaptable. Just as consumers may have important needs unmet by a mass production economy, workers may find their personal development severely limited when employers call most of the shots regarding careers. Certainly those in career services try to tell us to take more control over our own work destinies.

Career Services

A growing number of individuals and organizations have emerged to aid in the career development process. For those no longer in school and considering re-entering the workforce or changing careers, there are career counseling and mentoring, workshops, and well known publications. Since the primary interest here is with current or recent students, I'll discuss the contributions of campus career services.

Campus service centers have shifted their primary focus from entry level job placement to lifelong career development. In addition to keeping credentials on file and arranging for on-campus interviews, career service offices assemble resource libraries, teach workshops focused on job procurement and career planning, and provide individual counseling. All three of the latter services offer enormous amounts of "consumer" information to students who take advantage of them. As with so many consumer services, accessibility is uneven because of differences in salience and motivation.

Faculty could help their students by strongly encouraging the use of campus career services. The workshops on resume and cover letter writing, interviewing skills, and job search strategies are valuable and need not be attempted by faculty. Their staff members can help develop career exploration exercises suited to students preparing for specific types of careers. Finally, faculty advisors shouldn't hesitate to refer students to the counseling service provided when there are planning or decision-making issues that seem to warrant specialized professional assistance.

There are only two weaknesses to mention here. Not all campus career services are equal. Students and faculty should be familiar with the quality and quantity of service and try to ensure the best possible services for their campus community. In other words, assuming "they" know what they're doing without investigating does not serve student-consumers well. The other problem with relying too heavily on career service professionals is that they are by nature generalists. They cannot be expected to know intimately the many campus curricula or job titles, firms, and typical or desirable career paths related to each field. Students and faculty must provide such information.

Students

The traditional model of career planning places considerable responsibility on the individual student/worker. We expect career satisfaction and progress will come to those individuals who are motivated, resourceful, self-interested, and self-determined. Few of us would argue that each person ultimately is responsible for their own career development. Certainly it is better than leaving it up to the employers for reasons discussed earlier.

No one else can know as well what an individual's interests, values, goals, and abilities are. Furthermore, the marketplace for work is as complicated if not more so than the market for consumer goods and services. None of us has the time to look out for others under such circumstances! In other words, each person must guard and seek his/her own career interests. Students can prepare for that responsibility through greater self-determination during their schooling, starting with the selection of a major.

Faculty know that choosing a major is not the momentous, irreversible decision students often think it is. On the other hand, more careful selection based on complete market information and self-knowledge surely would be as advantageous as with any other consumer choice. Furthermore, students should be aware that every choice they make after deciding on a major has implications for their career development and alternate options.

This includes not only decisions about specific courses and field placements, but what they choose to do with the opportunities presented within each. After all, the ultimate goal of educational experience is to develop skills and confidence. The decision about whether to "receive" an education passively or to "procure" one actively is the student's and has considerable effects on how successfully the goal is reached.

This matter of how an education is obtained relates to one of the weaknesses of placing too great a burden on students. To what extent do teachers (and parents) structure learning experiences so students can develop independence and initiative? Allowing students to succeed and fail on their own and to live with the consequences is one aspect of such a structure. But it also suggests that students should have increasing responsibility for what they learn and how they do it.

A recent class exercise illustrates this point. When student interns were asked to take an inventory of the skills they already possessed and ones they wanted to develop, the former list was far easier for them to create than the latter--not too surprising or troubling. The more interesting challenge they experienced had to do with determining ways to develop those desired skills: students could identify past experiences that led to their present skills, but had great difficulty in proposing activities that could help develop future ones. What we all came to realize was that the past experiences had been suggested, required, and/or structured by parents and teachers. Now that students were being asked to take over that responsibility, most were novices.

At a more general level, expecting students to have too much of the burden for their career development is similar to expecting consumers to watch out for themselves armed with inadequate or confusing product and service information. The tasks associated with making educational and career development decisions surely must seem overwhelming at any stage, but especially when you are young and inexperienced. Furthermore, as anyone who has job hunted and/or been reviewed for their job performance knows, the process can be extremely ego threatening. In short, I think we ask too much of our students in this regard.

THE NEW MODEL: FACULTY TAKE MORE ACTIVE ROLES

Existing Contributions

What role have program faculty played in the traditional model of career development for students? I think it fair to say that all along, most consumer affairs/consumer studies programs have been doing the following things right:

1) The philosophy and goals of programs are articulated in promotional and descriptive written materials available to students.

2) Job opportunities are described in the catalog and brochures as well as through the advising process. Such descriptions tend to be rather general in pointing to the sectors where jobs might be found and as to the type of work they might entail, not unlike reports to the ACCI membership on career opportunities for CAPs and financial counselors (Burton 1976; Fritzsche & Ferrell 1980; Bannister 1983; Langrehr & Langrehr 1986).

3) Curricula are designed to arm students with the knowledge and skills faculty know and believe they would need as competent CAPs. These competencies are identified through market research on employment and comparisons with programs at other universities (Stampfl 1983; Abdel-Ghany 1983; Charters 1983; Garman, Forgue & Burton 1983). In many

cases, choice is permitted so that students can individualize programs and take more active roles in their own educational preparation. However, without better knowledge of what careers are possible, such choices may not be particularly well informed.

4) Courses are designed to teach students relevant terms, concepts, and processes and to integrate such knowledge with other courses they take. Additionally, application of principles through case studies and thorough analysis of issues often are integral parts of courses.

5) Often our majors are required or encouraged to complete field experiences in order to put theory to practice and to aid in the transition from school to the world of work. Unfortunately, if career information is inadequate, students may simply rely on the visible consumer complaint handling organizations or field experiences they hear about through their peers.

6) Attempts are made to offer role models and sources of career information by inviting CAPs to speak in classes or at meetings. But few of these CAPs had consumer affairs educations, thus making it difficult for them to identify with our students and vice versa. Inviting graduates of your own program is ideal for modeling identity, however, it often is difficult to monitor former students' whereabouts and career paths.

What Faculty Could or Should Do Better

In evaluating my own program's contributions to career preparation, three general types of deficiencies were identified which we have begun taking steps to correct. I would submit that other programs might improve the career development of their students through attention to these issues:

1) Although courses generally have goals listed on syllabuses, they are not always expressed as learning objectives, that is, tasks that are observable and measurable. (How can students, let alone faculty evaluators, be able to say with confidence that they have "learned about" or "understood" some concepts? What do we mean when we say we want students' communication skills to improve? What are communication skills, anyway?) Faculty should try to express course and assignment goals as learning objectives and then design exams, assignments, and in-class exercises in order to provide opportunities for student mastery of those objectives.

2) Because of the previously mentioned problem of students not knowing what skills they had and how to transfer them, the learning objectives mentioned above should be explained and justified on the basis of how they foster professional development. Additionally we need to make more references to jobs and careers in the field within the context of all courses. For example, as we describe how the current fields of food production, insurance or housing operate and predict ways they might or should operate in the future, faculty could suggest future trends and needs, job titles and descriptions, and potential employers in these industries.

3) Most importantly, improving career development demands that helping students make connections between the classroom and their subsequent careers needs to come earlier than the senior year. Typically senior seminars or field experiences are used to discuss careers and job obtainment and although these are important and still needed, they may be too little too late. Career development starts long before college, but we should become a part of that process from the time students arrive on campus. One suggestion is to give students assessments of their strengths and weaknesses as they relate to careers. This can be done through coursework evaluations and during the advising process. Students have expressed surprise when I tell them they would be good at research jobs or that they have particularly good interpersonal or managerial skills, etc.: they don't seem to know it!

It was these three deficiencies in our own program's career preparation efforts which motivated me to write and publish advisees' manuals for distribution to our majors and any other students inquiring about our program. (Copies of these are available to conference participants.) The objectives of preparing these manuals were to 1) introduce and describe the field of consumer affairs while listing more specifically the various career opportunities in the field and 2) explain the curricular requirements for URI's major in consumer affairs as they relate to knowledge and skills recommended for CAPs (Bannister 1983). We found that depending on advising to disseminate this information was inadequate and spotty.

CONCLUSIONS

Observing and listening to students provided the data used to make the conclusions and recommendations in this paper. I have been continually surprised at the limited options our students consider open to them after graduation--notably most frequently mentioned are complaint handling and sales. But even more disappointing is the lack of certainty and confidence concerning the skills they possess. I have argued that part of the problem stems from inadequate career information and guidance, functions that rightly belong to program faculty. Could it be that we are not as confident as we should be about what we help prepare our students to do?

Burton found in 1976, as did Fritzsche and Ferrell in 1980, that the favored educational preparation for CAPs was business administration. But when one looks at the finding by Fritzsche and Ferrell (1980) that current CAPs rated course preparation with a consumer orientation and communication skills as more important than marketing or management, the desirability of a business administration degree becomes questionable. Perhaps it was the traditional and most obvious answer, especially since at that point, most CAPs came from business backgrounds. I believe our consumer affairs students could better market themselves if 1) they knew far more about what career possibilities were out there and 2) they realized what they have to offer.

The authors of a book entitled How to Help your Child Plan a Career, write that:

> Healthy career development and realistic career decision-making seldom occur by chance. Most successful persons decide what they want in a career and how to get there based on firmly established faith in themselves, on a personal feeling of worthiness, and on reinforcement gained through successful experiences (Hummel & McDaniels, p 35).

Clearly educators share several socialization goals in common with our students' parents. In this case, I urge my colleagues who educate future CAPs to do as much as you can to ensure that your students are confident, competent, and experience success so that their career development will be enhanced. It is no more than what we attempt on behalf of consumers.

REFERENCES

Abdel-Ghany, Mohamed (1983), "A Survey of Course Syllabi: Consumer Economics, Family Economics, and Personal Finance," Proceedings, American Council on Consumer Interests: 82-84.

Bannister, Rosella (1983), "Careers in Consumer Economics -- Financial Services," Proceedings, American Council on Consumer Interests: 245-246.

Bolles, Richard Nelson (1977), What Color is Your Parachute? A Practical Manual for Job Hunters & Career Changers, Rev., Berkeley, CA: Ten Speed Press.

Burton, John R. (1976), "Employment Opportunities for Consumer Affairs Professionals," Journal of Consumer Affairs, 10 (No. 1; Summer): 72-85.

Charters, Margaret (1983), "An Evaluation of Course Syllabi in Consumer Science," Proceedings, American Council on Consumer Interests: 85-89.

Fritzsche, David J. and O.C. Ferrell (1980), "Consumer Affairs Executives' Opinions on Educational Preparation for Business Careers in Consumer Affairs," Journal of Consumer Affairs, 14 (No. 1; Summer): 221-231.

Garman, E. Thomas, Raymond E. Forgue and John R. Burton (1983), "An Analysis of Consumer Science Internships," Proceedings, American Council on Consumer Interests: 90-93.

Goebel, Karen P. and Nancy H. Miller (1983), "Consumer Science: Is Conceptual Consensus Possible?" Proceedings, American Council on Consumer Interests: 103-107.

Hummel, Dean L. and Carl McDaniels (1979), How to Help Your Child Plan a Career, Washington, DC: Acropolis Books Ltd.

Kennedy, Joyce Lain (1988), "These 10 career tips are the standouts from 3,120 columns over two decades," Providence Sunday Journal, (Jan. 17) B8.

Langrehr, Virginia B. and Frederick W. Langrehr (1986), "Course Requirements, Job Responsibilities, and Compensation for Financial Counselors: The Not-For-Profit Industry View," Journal of Consumer Affairs, 20 (No. 1, Summer): 131-141.

Stampfl, Ronald W. (1983), "Consumer Science in Institutions of Higher Education: Some Findings from the National Study," Proceedings, American Council on Consumer Interests: 94-102.

TAX REFORM, WELFARE REFORM - THE CONSUMER'S STAKE

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Tax reform and welfare reform made strides toward improving the well-being of most American households. With a more rational approach toward the allocation of our economic resources and our social responsibilities, we will make better decisions. And with a fairer distribution of our tax burden and with more support for poor families, we have put our government's support behind those who need it.

The last few years have been a period of unprecedented economic program reform. The reason is less than clear. It may be that the Congress merely has nothing better to do while waiting for a president who will agree to act on our major economic policy problem: the federal budget deficit. Or it may be the kind of hyperactivity on peripheral matters in which we all indulge when we know that we have something difficult and unpleasant to do.

Whatever the reason, the legislative action has been intense. The Tax Reform Act of 1986 unquestionably was a legislative landmark. It was certainly the most significant piece of tax legislation since the enactment of the current income tax in 1913, and may be the most significant new law of any kind since the Civil Rights Act of 1964.

By this standard, welfare reform in 1988 may well be partially hidden in the shadows. Nonetheless, it should not be overlooked. Welfare reform will still be an achievement that eluded the best efforts of Richard Nixon and Jimmy Carter. It will affect millions of unfortunate Americans, for the better, and it will continue an economic theme--and some might add, a sense of national purpose--that tax reform set two years ago.

What I would like to do today is to discuss the common economic theme and the common national purpose in tax reform and welfare reform. In fact, the commonality here is both strong and significant. And though our economic house is now far from in order, these policy initiatives do speak well of our ability and willingness to grapple with tough economic issues in the years ahead.

THE ECONOMIC THEME

So what is the common economic theme of these two prominent "reform" efforts of recent years? Or indeed, as a more critical observer might ask, do these two initiatives deserve to be called "reform" (if that term retains any meaning)?

Tax Reform

Let us begin to answer this question from the perspective of the new tax law passed by the Congress and signed by the President two years ago. Interest in fundamental tax reform did not begin with this recent effort; in fact, the interest was there for at least thirty years. And over that thirty year period the interest of tax specialists and public policy analysts only grew, by reason of the irrational turns that actual policy took.

Most everyone--expert or not--would say on reflex that the tax law should first and foremost raise the revenue that the government needs. In practice, however, the tax code was increasingly devoted to the purpose of influencing people's behavior, in pursuit of other economic or social goals. The list of worthy purposes quickly expanded from encouraging home ownership to the purchase of health insurance, to investment in business equipment, to household saving, to the adoption of children, to the exploitation of reserves of clay for flower pots. Before too much time passed, no one really knew how many special privileges and exceptions were tucked away into the far corners of the tax code and its associated case law and regulation.

The best measure of what was going on was the total of what were called "tax expenditures"--the revenues not collected because of preferential features of the tax system designed to influence private behavior. From the invention of this concept in the mid-1960s, the total of tax expenditures marched steadily upward, until by the mid-1980s, tax expenditures under the individual income tax came to about two-thirds of revenues actually collected. In other words, for every dollar that the federal treasury actually took in, it handed out about 67 cents of tax forgiveness, largely with the purpose of in fluencing taxpayers' economic and social behavior. Under the corporate income tax, the situation was even worse. By the mid-1980s, corporate tax expenditures exceeded actual corporate tax revenues--meaning that the federal government was handing out more than one dollar in tax forgiveness for every dollar of tax actually collected. The corporate subsidy tail was officially wagging the corporate tax dog.

There were many reasons to be concerned about this trend. The tax law may well have become the major vehicle for the operation of economic policy in the United States, making the creation of tax breaks a major policy playing field. Lobbying for those tax breaks became a high paying business. That is in part why Washington has become such a bustling town, with highly id lawyers bidding for their pieces of the ax-preference pie. It is why members of the tax-writing committees of the Congress have become leading recipients of PAC campaign contributions. One might well argue that consideration in the legislative process has too often been given to greed before need.

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It is also apparent that plain, ordinary taxpayers have become enamored of tax breaks; people feel that the tax system is a game, and that he who pays no less than others with the same income is a loser. A whole army of financial planners has arisen; for the most part, they do no financial planning, only short-run tax minimizing. This whole mindset creates animosities and wastes the nation's time and resources.

A main economic purpose of tax reform that is often ignored is rationalizing the allocation of our resources--taking irrelevant tax criteria out of day-to-day business decisions. Let me try to elaborate.

When Forbes magazine did its annual issue on the 400 wealthiest American individuals a few years ago, it identified one-sixth of those individuals as having accumulated their fortunes in real estate, and another one-sixth as having done so in oil and gas. In the same year, the Internal Revenue Service showed that partnerships operating in those two industries had in aggregate lost money in the most recent tax year. You don't have to be an economist to understand that those fortunes were not accumulated by earning profits in the marketplace; rather, they were built by accumulating preferences from the tax law (which heavily favored the oil and real estate industries). It is one more piece of evidence that the most competitive people in the nation were tax attorneys; it is no wonder that the international competitiveness of much of the rest of the economy is faltering. It is also not surprising the many real estate markets were drastically overbuilt, and that much of our industrial base was correspondingly ignored.

A key objective of tax reform was to rationalize those kinds of choices--to stop sending investors bad signals, leading them to seek tax payoffs instead of economic profits. This is one area where American consumers have an often unrecognized stake. An economy that wastes its resources on zero-sum tax-reduction games will be less prosperous than it could be. Redirecting the economy toward truly valuable activities will redound to everyone's benefit. And tax reform was probably the most important step that our nation could take in that direction.

Welfare Reform

Current proposals for welfare reform likewise involve a rationalization of our economic affairs, but in a sense that is somewhat different. Here I would like to focus on two particular aspects of welfare reform: its emphasis on work, and on the payment of child support by absent parents.

By now, just about everyone has heard the argument about the welfare system as a poverty trap. The theory goes that welfare breeds dependency by providing unconditional income support. There is no incentive to work, especially when the rewards of work would be little in excess of welfare benefits--including the health insurance provided under Medicaid.

Very few economists would agree with this extreme view of welfare as a disincentive to work. The empirical evidence does not support the hypothesis that most welfare recipients do not want to work. Nonetheless, the welfare system does very little to help recipients to obtain gainful employment; it merely holds body and soul together, and relies on the beneficiaries' own initiative and devices to "work their way off of welfare."

It was this vacuum that federal demonstration projects and several state programs--perhaps most notably the Massachusetts Employment and Training, or "E.T." program--have filled. These initiatives have provided job training along with other services, including child care, to help the participants along in their attempts to become self-supporting. Results thus far have been positive, but small--the welfare population might be reduced by as much as 10 percent. Sticky questions about the selection--or self-selection--of the participants will always cloud the verdict. Further doubts include whether the immediately apparent gains will persist over time, and whether the jobs so created are really new, or merely substitutes for other jobs elsewhere in the economy. The most positive interpretation is that the states have saved welfare costs in return for a modest investment in their citizens.

The welfare reform legislation passed by the House of Representatives takes a long stride in this direction by mandating that all states provide an education, training and work program for their welfare recipients. Most recipients are required to participate. Further, participants are to be provided with additional incentive and support. A greater amount of income may be earned and disregarded for purposes of computing welfare benefits. Child care is to be provided. And for those who do manage to work their way off of cash assistance, a longer transitional period of health insurance coverage under Medicaid is mandated.

There is no doubt that such a program would be expensive; it is a large part of the Congressional Budget Office's estimate of the House bill's five-year cost at $5.7 billion. There is considerable doubt that the Senate would accept such an expense. The ultimate return on this investment is likewise uncertain, given the insoluble mystery of whether those who respond to such programs are really the self-starters who would have advanced themselves anyway, and whether the additional employment is real or illusory. In the current budgetary environment, these financial concerns cannot be ignored, and the ultimate anti-poverty and anti-welfare impacts should not be exaggerated. But it is clear that such an initiative may well buy dignity, which is a commodity of considerable value. This does not pay for the program; it merely says that it deserves a somewhat higher priority than it might otherwise receive.

We might recall the English "poor laws," and ask whether work and training requirements are proper in a civilized society. This is not an easy question, but I have to guess that participants handled with respect will learn that personal advancement comes through work. This is an echo of the economic rationalization of tax reform--in both instances, value is created through productive effort, not manipulation of a legal and political system.

This rationalization, a steering of individuals toward productive effort and away from zero-sum transfers, is one of the things that I find encouraging in welfare reform. Everyone will benefit if this initiative in fact expands our productive labor force and adds to the stock of skills in our society. Especially important would be a break in the cycle of poverty if children of recipients are better acquainted with productive effort from their earliest years.

Another fundamental rule of all human relationships is that we accept the consequences of our actions. Failing that notion of responsibility, some people will begin to act with no consideration of the costs that they impose on others, and in the end, we all will be worse off for it. In this regard, our society has been visited by an important breach of responsibility. Our growing welfare population of single mothers with children is dependent upon the state in large part because it cannot depend on those children's fathers. Nine out of ten children in female-headed families have a living father, but eight out of ten poor female-headed families receive no support from the absent fathers. Only 70 percent of child support now legally due is collected. Given that divorced and separated fathers have incomes that are the same, on average, as those of other men, and that survey research indicates that as many as 84 percent of absent parents can be identified and located, a renewed policy emphasis on enforcing child support would seem to be in order.

A 1984 federal law requiring wage witholding of delinquent child support payments of absent parents was an important step in the right direction. But still further action is needed. One major gap in the child support system is the determination of reasonable amounts of child support obligations in the first place. Wisconsin very recently imposed a mandatory percentage-of-income formula for adjudicating child support obligations, and plans to add automatic withholding of payments. Estimates indicate that this type of system imposed nationally, optimistically assuming universal compliance, would reduce poverty among female-headed families with children by 40 percent, AFDC caseloads by nearly 50 percent, and government outlays by over $2 billion.

Indications are that welfare reform will make some strides, although significantly shorter than those taken in Wisconsin, in the child support area; this is one area where the Senate and the House are in agreement. These steps will help to rationalize our economic system by putting familial financial obligations where they belong. The burden on the public purse will be less, and the consequences of private actions will be clearer. All consumers stand to benefit.

But beyond these rationalizations of tax and family matters, tax and welfare reform have redefined some of our important national attitudes. These changes also have implications for consumers as we look toward new economic challenges.

THE NATIONAL PURPOSE

Tax reform and welfare reform may well point in a common direction toward principles for resolving our remaining economic problems.

Tax Reform

Over virtually the entire period since World War II, the tax burden has been shifting from corporations to individuals. The corporate income tax's place as the second largest federal revenue source was taken by the Social Security payroll tax. The substantial corporate tax cuts of the early 1980s pushed this trend still farther, and corporate tax revenues, expressed as a percentage of corporate net income, fell to new postwar lows.

The new tax reform law reversed this trend. Corporate taxes are expected to reach the same percentage of corporate net income as they held in the 1960s and the 1970s. The additional revenues will be used to reduce the tax burden on individuals.

And the individual income tax burden itself is being rearranged. Over the last decade, inflation has significantly increased the tax burdens on lower-income taxpayers. In legislation passed in 1974, 1975, and 1976, the Congress lifted the income tax burden entirely from families below the official poverty line. Since that time, inflation has reimposed the burden, and the 1981 law distributed hundreds of billions of dollars of tax cuts while doing virtually nothing for the poor.

The new law returns to the principles of the mid-1970s. In fact, six million poor families will have their tax burdens eliminated, and significant tax cuts are given to near-poor and middle-income families, with the sizes of the tax cuts (expressed as a percentage of tax liability) falling as income rises.

the broad philosophy of the new tax law is to abandon the attempts of recent years to use billions of dollars of revenue to influence business behavior in such a fashion as to speed economic growth. Instead, those dollars will be distributed in an unconditional fashion to taxpayers of low and modest incomes. To me, this change in philosophy bespeaks an attitude that corresponds more closely to what this nation has traditionally considered fair.

There is a risk in this approach. Some economists would argue that reduced tax incentives for business will inhibit investment and thereby slow economic growth. But the experience of the 1980s shows precious little value from tax incentives. And the new, fairer distribution of the tax burden may well leave us with a sounder base to attack the federal budget deficit.

Welfare Reform

In one important way, the most likely outcome for welfare reform legislation would reinforce the effort of tax reform.

Since the mid-to late-1970s, as the federal government was hampered by large budget deficits and state governments were constrained by tax revolts, welfare benefits have dropped behind inflation. In fact, in the median state, real benefits have declined by 35 percent since 1970. Now, the percentage of the poor who are lifted out of poverty by federal programs is well below where it was ten years ago.

Therefore, it is encouraging that part of the welfare reform legislation passed by the House is an increase in benefits. This modest step will help to relieve some of the pressure on poor families, especially if the kind of child support initiatives described earlier proves successful.

Again, this reform approach involves a risk. Some members of the House, in opposing the bill, argued that the higher welfare benefits could discourage work. But this risk may prove to be well founded. Recent experience has demonstrated that low-income people really want to work. In particular, when welfare benefits for the working poor were eliminated in the early 1980s, many low-wage workers chose to continue to work rather than leave their jobs and collect virtually the same income from welfare. If the job training programs included in the new law prove effective, we could have both better support for families when parents are out of work and more opportunities for the parents to get back to work.

So the new welfare reform legislation might well begin a more compassionate and a more efficient approach toward solving our problems with the low-income population. And those problems will continue. Teen-age pregnancy continues to expand the population of poor families; low-cost housing is still in short supply; and welfare families are still deterred from working their way out of the program by the prospect of the complete loss of Medicaid benefits. Still, b beginning to face these problems, we may have begun the lengthy process of solving them.

CONCLUSION

So, in tax reform and welfare reform, we have made strides toward improving the well-being of most American households. With a more rational approach toward the allocation of our economic resources and our social responsibilities, we will make better decisions. And with a fairer distribution of our tax burden and with more support for poor families, we have put our government's support behind those who need it.

But much remains to be done. Welfare reform has only begun to deal with the task of keeping families out of poverty, rather than merely helping them once they are there. And while tax reform may help us to eliminate our enormous budget deficits, it itself does nothing to accomplish that essential task.

So the consumer's stake in tax reform and welfare reform is considerable, but the stake in our remaining public policy problems is enormous. Let us hope that tax reform and welfare reform have demonstrated a willingness and a capability to deal with these pressing national issues.

THE CONSUMER PROTECTION THEORY OF STRUCTURAL REGULATION

John E. Kushman, University of Delaware[1]

This paper introduces the definition of structural regulation in health care and discusses briefly how structural regulation might be supposed to have a consumer protection effect. Some difficulties with testing for that consumer protection effect are mentioned.

THE ISSUES

The Federal Trade Commission has recently struck down a number of restrictions on the "commercial" behavior of health practitioners, including physicians, dentists, and optometrists. Matt Daynard will discuss some of these actions later in this session. In 1986 the editor of the Journal of the American College of Dentists took to print to castigate the American Association of Retired Persons (AARP) for giving its members "poor advice" to support denturism-- permitting nondentists to make and fit dentures directly for the public. Mr. Blair said, "AARP members should consider it downright insulting for their organization to recommend that they should choose to have substandard care performed by technicians instead of treatment by qualified dental practitioners." (Blair, 1986) Also in 1986, Florida prepared to implement a law permitting pharmacists to prescribe some drugs that had before required a doctor's prescription ("Highlights: Pharmacists," July 1986). By one estimate, in the past few years more than 10,000 nurses have set up practices independent of physicians and hospitals. The reaction of the American Medical Association-- "...if you want to practice medicine, then go to medical school." ("Florence Nightingale, Inc.," 1986)

The common element in these cases, and some others you will hear about in this session, is that they involve structural regulation in health care. These disputes can be long, bitter, and expensive. Both sides to each dispute claim to be acting in the best interests of consumer. One side claims that consumers' best interests lie in wider choice as protection against sellers, and the other side claims that choice must be constrained to protect consumers against themselves.

My task is to set the context for the discussion of cases in the session. I will first define structural regulation in health care, then outline a formal model of such regulation as consumer protection, and, finally, indicate how one might test the regulations for a consumer protection effect. I will only suggest the general outline of the technical model.

DEFINITION OF STRUCTURAL REGULATION

The basic taxonomy for evaluation of health care services was set forth by Donabedian (Donabedian, 1980). This taxonomy also will serve as my classification scheme for regulations. Economists will recognize strong similarity to structure, conduct, and performance from industrial organization.

According to Donabedian, the structure of health care comprises the settings and instrumentalities available and used, the physical aspects of facilities and equipment, the administrative organization, and the qualifications of caregivers. These are relatively stable and objective characteristics of the circumstances in which care is delivered. Structural regulations require, for instance, that hospitals have a medical ethics and privileges committee and that persons performing surgery have medical licenses and all the credentials that go with licensure.

Donabedian defines the process of care as the activities of health professionals or institutions in the management of patients. The activities through which care is delivered comprise the process of care. For instance, does a dentist take and use radiographs in diagnosing dental disease? Does a hospital medical ethics and credentialing committee hold meetings and discuss problems? Process issues can be defined from the global to the very specific, as can structure.

The final element of Donabedian's taxonomy is outcome. The outcome of care is (we hope) health and satisfaction. Outcomes may be only probabilistic. For instance, treatment for cancer may only change the probability of recurrence, but a reduction in that probability is a positive outcome. In dental hygiene, about which you will hear more later, a positive outcome can include a more pleasing smile and a greater probability of retaining natural dentition.

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Donabedian proposed structure, process, and outcome as three levels or approaches to *assessing* health care. He acknowledged presumptions that "better" structure will lead to better process, and that better structure and/or process will lead to better outcomes. He did not address the taxonomy from a regulatory context, and he did not purport to demonstrate the truth of the presumptions that structure, process, and outcome are causally related.

Donabedian's taxonomy is useful in analyzing regulation in health care, because regulations in health care are primarily on structure. Licensure is an obvious example. Another example, a supervision requirement in dental hygiene will be discussed in another paper. Regulations that prohibit lay ownership of medical or dental practices are structural regulations. I would argue that bans on advertising or the use of fictitious names by health care providers are structural regulations, since they do not regulate the steps or activities followed in care, just the characteristics of the provider (for instance, advertiser versus nonadvertiser).

I define structural regulation as legal requirements that providers of a health care service have a specified set of characteristics (credentials, facilities, etc.). I believe that structural regulation is the most pervasive type of regulation in health care and the type on which most reliance is put to maintain the quality of care. Process and outcome regulations do exist. For instance, the Joint Commission on Accreditation of Hospitals does inspect records of hospital operations to determine if prescribed procedures are being followed by quality assurance committees. Licensing boards do remove licenses for repeated, egregious adverse outcomes. I believe it is obvious, however, that process and outcome regulations are relatively few, weak, and *ex post*. The major burden for *ex ante* consumer protection falls on structural regulations.

THEORY OF CONSUMER PROTECTION

Recently, I have been working on a general theory of structural regulation as consumer protection. The problem is this:

> If we accept the presumptions set forth by Donabedian that better structure leads to better process and, particularly, better outcomes, what are the implications of these presumptions for more and less (or better and worse) regulated markets? That is, what observable variables should differ between markets with regulations requiring better structures and markets without such requirements and how should those variables differ?

Better outcomes are defined from a consumer welfare perspective, so Donabedian's presumptions are taken in my work as a hypothesis that structural regulations protect consumers. It is not necessarily true, however, that consumer's perceive that their welfare is improved by the regulations. The very consumers whose welfare is improved by the regulations are likely to oppose the regulations. Thus, structural regulations are hypothesized to protect some consumers from themselves.

The question I have been examining can be put differently as:

> If structural regulations do protect consumers from themselves, what data could be observed that would verify this? Under what conditions could this data be observed? How does the consumer protection effect come about?

The last question deals with what exactly the connections among structure, process, and outcome must be for consumer protection to result from structural regulation.

Without going into any details or stating all the conclusions of this work, I will explain the basic framework and state some of the broad conclusions. The context of the basic model is a service which can be "good" (for instance, safe and efficacious) or "bad" (unsafe or not efficacious, or both). Consumers make purchases under risk. They can know or estimate the probability that a service will be good before consumption. Consumers make purchase decisions on the basis of their perceived expected utility. Expected utility also is the standard for evaluating consumer welfare.

The basic model supposes that there are two groups of consumers and (potentially) two groups of sellers. The consumers are divided into those who accurately perceive the probability of a service provided by a given seller being good (APC, for accurately perceiving consumers) and those who inaccurately perceive the probability of a good service (IPC, for inaccurately perceiving consumers).

Aside from the accuracy of their perceptions, the consumer groups are identical. Both sets of consumers recognize that a higher quality service (one with a higher probability of being safe and efficacious) can be purchased from any seller only at a higher price. APC perceive the price-quality tradeoffs for different sellers accurately. IPC are wrong in their perceptions of the tradeoffs. Each consumer will buy one unit of service, and each consumer will choose the seller from whom they purchase and the quality of service they demand from that seller. At the most general level of the model no further assumptions are made about consumers.

There are potentially two types of sellers who are distinguished by whether they possess some structural characteristic. At the general level it is unnecessary to choose a particular characteristic. For exposition, the types of sellers are called "more professional" (MP) and "less professional" (LP). The distinction is not meant to be pejorative. It is assumed that entry is free and that unit cost and price at the market level is constant for any given level of quality and type of seller. Thus, MP can provide any quantity at a constant price for a fixed quality. Likewise, supply from LP is constant-cost for any quality level. No assumptions are made about the relative costs of the same quality from MP and LP, but the marginal cost of quality from either type of seller is positive and increasing.

Figure 1 has the types of consumers on the left margin and the types of sellers across the top margin. The body of the figure shows the levels of quality that consumers would demand from the different sellers if they were to patronize them. For instance, if APC buy from MP, they would choose quality Q_a to maximize their expected utility. If IPC were to buy from LP, they would end up with q_i by maximizing their perceived expected utility.

Figure 1. Quality Levels Chosen By Consumer Group and Seller Type

Seller Type	MP	LP
Consumer Group		
APC	◇ ○ Q_a	q_a
IPC	◇ Q_i	○ q_i

◇ Observed in regulated market

○ Observed in unregulated market

The way in which structural regulation is hypothesized to improve the performance of the market can be represented with the help of Figure 1. The basic hypothesis is that in an unregulated market APC patronize MP and choose Q_a, while IPC patronize LP and end up with q_i.

APC are operating with accurate information in a market with no supply-side imperfections. They maximize their expected utility. APC need no protection, and their expected utility is the standard to which the choice of IPC can be compared. IPC are identical to APC except for their misperception of the price-quality tradeoffs for MP and LP. Therefore, what is chosen by APC (Q_a from MP) would be best for IPC as well. Structural regulation may not achieve this ideal for IPC, but it should improve on their unconstrained choice.

The consumer protection hypothesis of structural regulation is that the *actual* expected utility of IPC at their unregulated choice (q_i from LP) is less than their *actual* expected utility would be if they were *forced* to patronize MP. If IPC were forced to patronize MP, they would choose Q_i as shown in the lower left corner of Figure 1. The improvement in the actual expected utility of IPC if they are forced into column MP is a fundamental inequality of the consumer protection hypothesis.

Consumer protection regulation takes the form of banning LP's from the market, or the opposite side of that coin, requiring the structural characteristics of MP. The regulation is a way to force IPC to Q_i.

Other inequalities follow from the model, and they demonstrate realism and policy relevance. For instance, even when they are forced to patronize MP, the IPC may not choose the same price-quality combination as APC. After all, the fundamental problem of misperception of price-quality tradeoffs has not been cured. It follows that the *actual* expected utility of IPC at Q_i is no greater than the expected utility of APC at Q_a. IPC freely choose q_i when they can, so their *perceived* expected utility there must be greater than their perceived expected utility at any other quality-seller combination, including those combinations in the figure. It follows that IPC will oppose removing LP from the market if LP are present or support introducing them if they are not present. Mr. Blair's comments reported in the first part of this paper amount to accusing the leadership of AARP of being IPC's. IPC perceived expected utility must be at least as great at Q_i as at Q_a.

The inequalities for actual and perceived expected utilities stated above follow from the consumer protection hypothesis of structural regulation in its most general form. For instance, nothing has been assumed about the nature of IPC misperceptions or about the relative prices of MP and LP for any quality levels. Without going into specifics, this general form of the model demonstrates (1) that the model does generate operational tests for a consumer protection effect of structural regulation and (2) that the greatest difficulties in testing the model's implications are in identifying APC and IPC and in constructing comparable measurement scales for quality and perceptions of quality.

TESTING THE CONSUMER PROTECTION HYPOTHESIS

In Figure 1 the circles identify quality-seller-buyer combinations that will be observed when the market is unregulated. The diamonds identify combinations that will be observed when structural regulations are used to ban LP. In Figure 2 the same symbols are used to identify the quality levels as perceived by IPC. G(Q) is a function giving the quality of purchases from MP as perceived by IPC, and g(q) gives the IPC perception of quality purchased from LP.

Figure 2. IPC Perceptions of Quality Levels Chosen By Consumer Group and Seller Type

Seller Type	MP	LP
Consumer Group		
APC	◇○ $G(Q_a)$	$g(q_a)$
IPC	◇ $G(Q_i)$	○ $g(q_i)$

◇ Observed in regulated market

○ Observed in unregulated market

G(Q)	IPC perception of quali purchased from MP
g(q)	IPC perception of quality purchased from LP

The implications of the general consumer protection hypothesis are that IPC underestimate the true differences between the quality levels they purchase and others that are available to them. As one example, it is an implication of the general model that $Q_a - q_i > G(Q_a) - g(q_i)$. In an unregulated market IPC underestimate the difference between the quality they receive from LP and the quality APC receive from MP. This may seem to be the obvious reason IPC can benefit from regulation (It actually isn't obvious), but my interest in it is to illustrate some difficulties with testing such implications.

The first difficulty with testing implications like the one above is that exact tests require measuring quality and perceived quality on comparable interval scales. Measuring quality of services on anything greater than an ordinal scale is difficult enough, without the added problem of comparing differences in actual quality to differences in perceived quality.

The second difficulty with testing implications like the one above is that it requires identifying APC and IPC. As the figures show, this is not difficult when the market is unregulated. APC are all those consumers patronizing MP, and IPC are all those consumers patronizing LP. If LP have been banned from all markets, however, it is not clear what method can be used to identify the consumer groups. Many structural regulations that are controversial are universal in the United States.

We usually know at least something more about a specific case of structural regulation. For instance, we may know that in unregulated markets the price IPC pay for q_i is lower than the price APC pay for Q_a. With any additional facts more implications can be generated, and some of the difficulties in testing for consumer protection can be removed. I have developed some of these implications elsewhere (Kushman, 1988). Even with additional facts to feed into the model, it remains difficult to test for a consumer protection effect of structural regulation. Without at least some unregulated markets to observe it is probably impossible to devise credible tests.

CONCLUSIONS

In this paper I have tried to define structural regulations and make the case that they are a very common form of regulation and quite controversial. On one hand, they are attacked as unnecessary, harmful restrictions on consumer choice. On the other hand, they are defended as protecting consumers from misguided choices.

I also have tried at least to hint that good tests whether a particular structural regulation has a consumer protection effect are likely to be difficult to construct. The more experience we have with unregulated markets or the more experiments in deregulation, the more data we have. The better our techniques for measuring quality and perceptions of quality, the greater are the chances to construct powerful tests for consumer protection. If powerful tests are constructed and the implications of the consumer protection model are not met, the regulation probably should be eliminated or substantially weakened and retested.

The paper by Daynard in this session deals with legal theories that are applied to test structural regulations. The legal theories must work in concert with economic tests of regulation. Reveal deals with a specific structural regulation from the perspective of one provider organization. Powers addresses a broad array of regulations from the perspective of a particular consumer advocacy group. These speakers will amply demonstrate that my model is only a starting place for exploring the jungle of structural regulations. Each regulation has its own paths and traps in terms of production, marketing, measurement, consumer interest groups, and legal ramifications. I hope that at the end you will still be convinced that some generic framework is helpful.

REFERENCES

Blair, Keith P. (January 20, 1986), "My View: AARP and Denturism," American Dental Association News, p. 2.

Donabedian, Avedis. (1980), A Guide to Medical Care Administration, Volume II: Medical Care Appraisal--Quality and Utilization (Sixth Printing), Washington, D.C.: The American Public Health Association.

"Florence Nightingale Inc.," (July 14, 1986), Time, p. 47.

"Highlights: Pharmacists" (July, 1986), The Nation's Health, p. 6.

Kushman, John E. (1988), "A Consumer Protection Theory of Structural Regulation," Unpublished Working Paper, Department of Textiles, Design, and Consumer Economics, University of Delaware.

THE DENTAL HYGIENIST
INCREASING THE AWARENESS OF AND ACCESS TO QUALITY ORAL HEALTH CARE

Marge Reveal, American Dental Hygienists' Association (ADHA)[1]

This presentation discusses the progress of accessing preventive oral health care through the services of dental hygienists. Dental hygiene education, regulation, and practice are discussed. A review of the 75 years of dental hygiene suggests a movement toward less supervision of, and more direct access to, the services of this oral health care professional.

WHAT ARE DENTAL HYGIENISTS AND WHAT DO THEY DO?

The profession of dental hygiene began in 1913, when Dr. Alfred C. Fones established the first school for dental hygiene in Bridgeport, Connecticut. One year of study was required for this preventive oral health specialty, which originally consisted exclusively of women. Because dentists were concerned that dental hygienists would be competitors, it was stipulated that dental hygienists must work under dental supervision in dental offices or in schools providing dental health education.

Today there are approximately 45,800 actively practicing registered dental hygienists in the United States (U. S. Department of Health and Human Services, 1986). This year marks the 75th anniversary of dental hygiene, and hygienists across the country are celebrating this Diamond Jubilee.

Dental hygienists provide dental and oral health education and preventive services including screenings for oral abnormalities; treatment and prevention of periodontal or gum disease; root planing; and oral prophylaxis. To prevent dental disease or cavities, dental hygienists apply topical fluorides and place pit and fissure sealants.

Since 1951, dental hygienists have been licensed to practice in all states and the District of Columbia (ADHA, 1988). Dental hygiene is the only licensed profession directly supervised by another licensed profession--dentistry.

In 1913, half of the dental hygienists practiced in dentists' offices, and half practiced in schools. By 1951, 66 percent were practicing in dentists' offices and 25 percent in schools, with nine percent in other practice settings. The concentration of dental hygienists in dental offices has increased from 80 percent in 1962 to over 90 percent today. This concentration can be attributed to the control of dental hygiene accreditation and dental hygiene program education by dentistry. This overwhelmingly female profession garners higher pay, part-time work, and more flexible hours in the private practice setting.

HOW ARE DENTAL HYGIENISTS REGULATED?

In order to be licensed, dental hygienists must graduate from a program accredited by the American Dental Association Commission on Dental Accreditation. They must pass either the American Dental Association's Joint Commission on National Dental Examination's National Board Dental Hygiene Examination or a written test of the state licensing agency. Additionally, they must pass a clinical examination administered by the state regulatory board or a regional testing agency. Once licensed, dental hygienists renew their licenses as prescribed by a regulating body. This often requires proof of continuing education credit.

There are 198 U.S. accredited programs of dental hygiene offering certificate/diploma, associate, or baccalaureate degrees in dental hygiene (ADA, 1988). Approximately two-thirds of these educational programs award a certificate/diploma or associate degree. It is interesting to note that these are not "two-year" programs. Data indicates that 70% of dental hygiene programs award a certificate/diploma or associate degree to students completing prerequisite and requisite credits equivalent to two and one-half years or more of postsecondary education. One-fourth of the certificate/diploma or associate degree awarding programs require prerequisite and requisite credits in excess of three years.

MEMBERSHIP ON LICENSING AND REGULATORY BOARDS

Most states have only token dental hygiene representation on boards of dentistry (38 have only one member). Dental boards have from four to 17 dentist members. New York, with one of the largest boards, has 17 dentists and three dental hygienist members. However, there are only two dentists for each dental hygienist in the state of New York.

The Colorado board has four dentists, two dental hygienists, and three consumers. Concern about maintaining control of the hygienists, should the consumers side with the RDHs on certain issues, prompted the Colorado Dental Association to introduce legislation to replace one consumer with a dentist. Their justification was that consumer members didn't understand dental issues. The bill quickly died in committee early in 1988.

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Washington State established a Dental Hygiene Committee in 1985. The three dental hygienist members administer the licensing clinical examinations and certify competency. The dental board, with no dental hygiene members, regulates dental hygiene practitioners.

The New Mexico Dental Hygiene Committee, established in 1987, has five members and is a committee of the Board of Dentistry. The dental board must consider recommendations of the dental hygiene committee in an "expedient" manner. There is one dental hygienist on the Board of Dentistry.

SUPERVISION

All states require dental supervision for at least some dental hygiene services, even in Colorado, Washington, and California. Only five states (Vermont, Connecticut, Delaware, Iowa, and Minnesota) have general supervision in all settings and for all services. General supervision means that the physical presence of the dentist is not required while dental hygienists perform any services for which they are licensed. General supervision of *some* dental hygiene services is allowed in 38 states.

In 1985, the ADA deleted general supervision from its definitions of types of approved supervision for dental hygienists, claiming possible harm to the public. Yet, there has never been a validated complaint against a dental hygienist attributable to the level of supervision.

The removal of general supervision in Illinois prevents the use of public health programs such as fluoride rinse and dental sealant programs unless a dentist is present, except in certain institutional settings. This greatly increases the cost of such programs.

In 1984, Washington State allowed dental hygienists to provide service without supervision in public settings, such as nursing homes or hospitals, but not in dental or dental hygiene offices. Each year since then, dental hygienists have tried to obtain legislative approval to open dental hygiene practices, but have been unsuccessful. Last year, the Washington State Dental Association, with the aid of the American Dental Association, spent $150,000 to defeat the dental hygiene bill.

In 1987, Colorado allowed dental hygienists to provide the oral prophylaxis without dental supervision, but not other services such as the exposure of dental x-rays. Immediately after the bill was signed by the Governor, the American Dental Association, through its Commission on Dental Accreditation, filed suit to stop the independent practice of dental hygienists, citing certain public harm. The judge ruled that the Commission had no standing and dismissed the case. The Commission appealed the case to the appellate court, and it is slated for hearing in late 1988 or early 1989. So far, 13 dental hygienists have started to practice independently in Colorado. The ADHA is starting to gather information about the cost-effectiveness of these services for the public. More dental hygienists may begin to practice independently once the law suit is resolved.

CALIFORNIA HEALTH MANPOWER PILOT PROJECT #139

The Health Manpower Pilot Project Act of 1972 permits experimental programs such as HMPP #139, that identify innovative ways of administering health care without legislative change. However, 70 percent of these projects have been adopted permanently through legislation. This is of concern to the California Dental Association.

HMPP #139's purpose is to measure the feasibility of "independent practice" for dental hygienists.

The four goals of the project are (1) to increase access of underserved populations to dental hygiene care; (2) to demonstrate the dental hygienist's ability to manage independent, solo, or group practice; (3) to develop and implement a dental hygiene curriculum in solo and group practice management applicable for college-level and continuing education programs; and (4) to produce empirical data which may lead to a change of healing arts licensure laws governing dental hygiene practice.

In 1987, the California Dental Association (CDA) filed suit to stop HMPP #139, claiming that the project violated state procedures and endangered the public's health. The judge ruled that the project should continue, and that it had not violated state procedures. CDA has said that they will appeal, but to date has not done so.

The California Dental Hygienists' Association (CDHA) itself is now being sued by the California Dental Association for alleged anti-trust violations. The CDHA president has stated that this suit, as well as the previous suit, are attempts to deplete California dental hygienists' financial resources which would otherwise be available to support research projects, such as HMPP #139, which seek to provide evidence about the effectiveness of independent dental hygiene practice.

ASSOCIATION POLICY

The mission of the American Dental Hygienists' Association (ADHA, 1987) is "To improve the public's total health by increasing the awareness of and access to quality oral health care."

> The American Dental Hygienists' Association endorses the concept that dental supervision of the patient's comprehensive oral health care is more important to the public interest than supervision of the dental hygienist, and that by virtue of graduation from a dental hygiene program accredited by the Commission on Dental Accreditation of the American Dental Asso-

> ciation, licensure, and a defined scope of practice, the dental hygienist is responsible for the patient's oral health care as it relates to dental hygiene practice and is capable of providing dental hygiene services without supervision.
>
> The ADHA supports the continual review and exploration of all forms of delivery of oral health services to the public, and is dedicated to the pursuit of those avenues which will ultimately lead to an improvement in the oral health status of the public. ADHA recognizes that the potential exists to enhance the public's access to oral health care through a variety of modalities. ADHA acknowledges its right and obligation to pursue the feasibility and ultimate viability of these options in an attempt to provide the public with quality oral health care in an accessible and cost-effective manner.

It is the position of the ADHA that it is cost-effective for dental hygienists to provide oral care without dental supervision, particularly to that 50 percent of the U.S. population that does not receive regular dental care. ADHA is convinced that there is no danger to the public if the dental hygienist provides care with or without the supervision of the dentist. There is no evidence to the contrary. Due to organized dentistry's attempts to prevent investigation and research into this issue, we have been unable to show that independent practice saves the consumer money.

Dental hygienists often cannot obtain third-party reimbursement directly for dental hygiene services, due to dentistry's opposition to designation of dental hygienists as primary health care providers. Dental hygienists must receive compensation from insurance companies for care in order to practice independently. Third-party payors must include preventive oral health services for reimbursement. Prevention procedures such as placing sealants are not often covered by insurance plans.

It is vital that consumer groups voice their objections to dentistry's self-serving attempts to block the expansion of oral hygiene care by dental hygienists.

REFERENCES

American Dental Association: Accredited Dental Assisting, Dental Hygiene and Dental Laboratory Technology Educational Programs. Chicago, ADA, January 1988.

American Dental Hygienists' Association: Association Policy Manual. Chicago: ADHA, 1987.

American Dental Hygienists' Association: Submission to Institute of Medicine Study on Allied Health Professionals. Chicago, ADHA, 1987.

U. S. Department of Health and Human Services: Fifth Report to the President & Congress on the Status of Health Personnel in the United States. Washington, DC: USDHHS, March 1986.

FTC ACTIVITIES IN STRUCTURAL HEALTH CARE REGULATION

Matthew Daynard, Federal Trade Commission[1]

This paper briefly outlines FTC activities in the field of "structural health care regulation"--public and private restraints on the circumstances under which professional health care services may be delivered to the public.

THE FTC ROLE

The Federal Trade Commission pursuant to its statutory mandate[2] has engaged, since 1975, in a program to identify and encourage the relaxation or removal of public and private restraints on the business practices of professionals that impede competition or increase costs without providing countervailing benefits to consumers. The program's goal is to facilitate consumer' access to less expensive, safe and reliable professional services that they desire through increased competition among providers and informed consumer choice.

As a part of these efforts, the Commission has challenged certain structural health care regulations as unfair methods of competition or as unfair acts or practices in adjudicative proceedings and in rulemaking.[3] The following discussion highlights our two seminal law enforcement efforts in this area.

THE AMA CASE

In the *AMA* case[4], the Commission held that the AMA's ethical rules prohibiting most forms of non-deceptive physician advertising and solicitation unreasonably restrained competition and were unfair in violation of Section 5 of the FTC Act.[5] The Commission also found that other ethical restraints imposed by the AMA on physician contract (as opposed to fee for service) practice were unfair methods of competition.

ACTIONS IN OPTOMETRY

In February, 1988, the Commission voted to issue a trade regulation rule that would remove four types of restraints on commercial practice by optometrists, one or more of which exist in 44 states. Based on two major Commission-sponsored economic studies and other record evidence, the Commission believes that these restrictions are unfair to consumers because they raise prices for ophthalmic goods and services and reduce consumers' access to optometric care without enhancing the quality of care they receive. The challenged state laws prohibit optometrists from: (1) working for or otherwise affiliating with lay entities, such as drug stores or optical chains; (2) operating more than one or two branch offices; (3) practicing in mercantile locations, such as shopping centers; and (4) using non-deceptive trade names. The Rule, like the Commission's professions program in general, would not interfere with the states' efforts to regulate quality of care, or to set standards for licensure, education and training, or practice requirements.

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[1] Program Advisor for Professional Services, Division of Service Industry Practices, Bureau of Consumer Protection. AUTHOR'S NOTE: The views expressed in this paper do not necessarily reflect those of the Commission, any individual Commissioner, or the Bureau of Consumer Protection.

[2] The FTC is an independent regulatory agency empowered by Congress to prevent unfair methods of competition and unfair or deceptive acts or practices in or affecting commerce. 15 U.S.C. Sec. 41 *et seq*.

[3] The Commission staff, upon request, has also filed advocacy letters on the competitive and consumer effects of various restrictions on professional health care practices with numerous state legislatures, "sunset" commissions, and professional regulatory boards considering repeal or modification of those restraints.

[4] American Medical Ass'n, 94 F.T.C. 701 (1979), *aff'd*, 638 F.2d 443 (2nd Cir. 1980), *aff'd mem. by an equally divided Court*, 455 U.S. 676 (1982). The Commission has also challenged in adjudicative proceedings certain advertising restraints imposed on optometrists by a state licensing board. Massachusetts Board of Registration in Optometry, Docket No. 9195 (appeal to Commission pending).

[5] The thrust of the *AMA* decision--"that broad bans on advertising and soliciting are inconsistent with our nation's public policy" (94 F.T.C. 701, 1011)--is consistent with the reasoning of recent Supreme Court decisions involving professional regulations. *See*, *e.g.*, Zauderer v. Office of Disciplinary Counsel, 471 U.S. 626 (1985) (holding that an attorney may not be disciplined for soliciting legal business through printed advertising containing truthful and non-deceptive information and advice regarding the legal rights of potential clients or for using non-deceptive illustrations or pictures); Bates v. State Bar of Arizona, 433 U.S. 350 (1977) (holding a state supreme court prohibition on advertising invalid under the First Amendment and according great importance to the role of advertising in the efficient functioning of the market for professional services); Virginia State Board of Pharmacy v. Virginia Citizens Consumer Council, 425 U.S. 748 (1976) (holding a Virginia prohibition on price advertising by pharmacists invalid).

OLDER CONSUMERS AND STRUCTURAL REGULATION IN HEALTH CARE

Dr. Patricia Powers, American Association of Retired Persons[1]

This paper looks at the concept of structural regulation from different perspectives. It discusses the interests of older persons in a range of structural and other regulation issues and describes various writing, analysis and lobbying activities by their advocates. Hearing health care is used as the primary example.

VARIOUS INTERPRETATIONS OF STRUCTURAL REGULATION

When we consider the term "structural regulation," we may think either of the structure of the regulatory system affecting the quality and delivery of health care or of the regulations governing the structure of any given health related occupation or profession.[2] An example of the former would be a state nursing home regulatory structure that relies on nursing home closures when violations become too numerous and uncorrected versus a regulatory structure that utilizes an ongoing fining and citation system. Legislation and implementing regulations that structure the inspection and enforcement system will shape the health care options of consumers. However, in this discussion, we are looking less at how the regulatory oversight system is structured and more at legal requirements placed on the conditions under which care is delivered, ostensibly to protect patients, customers and consumers.

Writing about medical care appraisal, Avedis Donabedian lists evaluation of structure as one of the major approaches to evaluation of quality. Structure in Donabedian's conceptual framework includes facilities, equipment, administrative organization and qualifications of health professionals. The assumption is that with "good" structural elements, "good care is more likely (though not certain) to occur." Donabedian goes on to note that devices like "license, certification of facilities, and accreditation are based largely on this assumption" (Donabedian, 1978).

An example may help illustrate Donabedian's model. After decades of struggle, consumer organizations have succeeded in getting the Health Care Financing Administration to require surveyors (inspectors) to look beyond bricks and mortar or even staffing levels--first to adequate written policies/procedures and record keeping and more recently to direct interviews by surveyors with facility residents and to observation of the effects of care in meeting resident needs. Donabedian might describe this as a shift of emphasis from structure to process to outcomes.

The Federal Trade Commission (FTC) has approached structural regulation from a restraint of trade or practice perspective. Similarly, the American Association of Retired Persons (AARP) explores the requirements placed on the conditions under which case is delivered in a monograph entitled "Unreasonable Regulation=Unreasonable Prices: A Report on the Effect of Certain State Occupational Licensing Regulations on Consumers." The report examines optometry (eye care), dentistry (dental care) and hearing aid dispensing (hearing health care). The report analyzes the licensing process of regulating the person and the profession and focuses on business practice and marketing restrictions (AARP, 1986).

We can compare and contrast these three interpretations by looking at one particular area of health care. In the hearing health care field, if we are examining the structure of regulation, consumers are concerned about such issues as which agencies have regulatory jurisdiction and what is the composition of the membership of a state hearing aid dispenser licensing board. Advocates are often concerned whether there is a gap in the structure of regulation that allows abuse of hearing aid wearers. If we are examining structure in Donabedian's terms (facilities, equipment, etc.), consumers are concerned about such issues as whether tests are conducted in a soundproof booth or in a consumer's noisy living room. Consumers are also concerned about the credentials of providers who often compete with each other (hearing aid dealers, audiologists, physicians). If we are examining structural regulation in terms of legal requirements such as licensure, supervision and the conditions under which care is given, consumers are concerned about who is allowed to check the physical condition of the ear, to conduct hearing tests, or to sell aids, as well as about which service providers are required to provide a trial period for hearing aids.

APPROPRIATE REGULATION

As the largest organization of older consumers in the nation, AARP is interested in consumer benefits and consumer protections. Many members join AARP to obtain discounts, a type of consumer benefit. But the political activists among our volunteers are more likely to worry about telemarketing fraud, medical malpractice and other problems requiring consumer protection. As the leading federal consumer protection agency, FTC has concerns about both anti-competitive activities and consumer rip-offs. Similarly AARP releases studies both on how older people are hurt by unnecessary regulations and are helped by needed regulations. AARP and FTC have prepared consumer education materials jointly to guide older Americans. AARP has commended FTC's efforts to encourage competition in the eye wear field.

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[2] This paper amplifies and expands upon informal remarks given during the panel presentation in Chicago. It employs terminology used by Dr. John Kushman, who structured and moderated the panel.

Building on FTC research, the Regulatory Alternatives Development Corporation surveyed a number of states and used a case-method approach to assist AARP in analyzing the types of business practice and marketing restrictions that can limit access or choice or even savings. Necessary regulations can save lives and prevent consumer financial losses, but unnecessary regulations may merely line the pockets of providers. AARP's report suggests that millions of dollars in saved costs are at stake for consumers if we can rid the occupational licensing system of unneeded regulations. Some occupational regulations are self-serving and take valuable time away from more important protections. For example, the California Auditor General complained that the California Board of Optometry suspended investigative and disciplinary activities on consumer complaints between 1983 and 1985 because the board overspent on a case against a large corporation violating business practice restrictions. Business practice restrictions may involve restrictions on location or the use of a trade name, in contrast to regulations that would protect the public from incompetent or impaired practitioners.

The Association also puts out reports on needed regulations, such as "Effective Physician Oversight: Prescription for Medical Licensing Board Reform" which analyzes the licensing process of certifying competence and policing doctors once licensed. The report provides consumers with 40 questions they can ask to evaluate a board's ability to protect the public (AARP, 1987). Furthermore, AARP conducts informal inquiries on a regular basis to see if needed regulations are enforced, if remedies are legally available, and if redress is easily obtainable.

AARP studies--some of which call for more regulation and some for less--suggest how difficult it is to make generalizations about whether regulations are beneficial or harmful to consumers at large and to older consumers. Our research findings indicate that: too many occupational licensing boards misdirect their efforts; too few systematically analyze and organize their complaints; too many are understaffed and underfunded; too few take disciplinary actions; and hardly any systematically attempt to assess whether their rules have a beneficial effect on consumers. In general, the most beneficial regulations appear to be those that involve protection from deceptive or anti-competitive practices and those that enhance quality, competence, health, safety, information disclosure and consumer convenience.

AARP tries to avoid "turf battles" between pharmacists and doctors, audiologists and hearing aid dealers, dentists and denturists and so on. The agenda instead is to protect older people as a consumer cohort with unique needs. The frail elderly living alone and the institutionalized elderly may be in particular need of the special protections that are possible through the structural regulation of health care. They may be less able to shop around, evaluate options themselves, check out credentials, or shift health care providers. But not all structural regulations make sense. Indeed, restrictions on advertising may be most detrimental to the homebound who have fewer avenues for information gathering.

REGULATORY PHILOSOPHY AND ACTIVITY

Older consumers have been urging federal and state regulators to put their attention on prevention of injury (physical or financial), quality and competence enhancement, health and safety protections, and on ridding occupations and professions of repeat offenders, "bad eggs", such as the so-called "killer docs."

Models that attempt in the abstract to determine whether a particular regulation fits the above criteria and actually addresses real consumer problems or fits any other criterion such as the appropriate level of regulation, can be hard to reconcile with the practical regulatory conflicts that confront advocates in the political world. AARP's State Legislative Committees frequently ask for guidance as they are pulled between competing regulation/deregulation philosophies. For instance, do registration and licensure offer false reassurance and misleading or empty consumer protection, or do they serve as vehicles for addressing particular consumer needs and problems? Who is seeking the licensure and why?

AARP analysts note whether proposed regulations reflect self-protection for the regulated or true consumer protection, whether they reflect a struggle between large chains or corporations and small businesses or individuals, whether they are dealing with a quality concern versus an outright hazard or fraud protection. Once the purpose is clearer, older consumers can tell if the battle is someone else's to fight or something they should tackle. The prospects for effective implementation of the proposed regulations are also analyzed.

Advocates for older consumers respond pragmatically to the abstract question posed to our panel: Under what general conditions would we expect structural regulations to protect consumers from poor choices they would otherwise make? A few "rules of thumb" would be situations where:

- o seeing a professional is actively discouraged by the party to be regulated;
- o services/products are expensive;
- o purchase may be useless without prior screening;
- o physical harm may result from inappropriate treatment;
- o the provider deals directly with the consumer (versus through referrals and guided professional involvement.)

When do we leave consumers alone and when do we protect them? "Buyer beware" and free market principles can suffice in many cases but not all. Buying reading glasses at a dime store or drug store may be inexpensive and harmless, while buying a hearing aid when the hearing loss could be a result of a tumor can be a costly or even fatal mistake. Inhalation therapists do not usually solicit customers; another professional has screened those who come to them--a very different scenario from the hearing health care consumer seeking assistance through the yellow pages.

Another question posed was: If we have structural regulations that are supposed to be protecting consumers from poor choices of caregivers, how can we determine whether they really are having a beneficial effect? Monitoring before and after implementation may give clues:

- there's evidence that the oversight body, the regulatory entity, is doing more than going through the motions because there are sanctions;
- statistics show a reduction in the problem, injuries, deaths or reveal more competition and lower prices.

But quality and effectiveness are notoriously hard to measure. Do we have adequate outcome measures for effective regulation?

Clearly who writes and enforces rules will influence their appropriateness, reasonableness, and nature. Legislative oversight committees have an important role to play. AARP has a program to identify and train public members for state licensing boards who can represent the interests of older consumers. Many occupational licensing boards are dominated by the occupation itself and members do not sanction many of their peers or hold themselves out to consumers as complaint resolvers; instead they frequently deal with the complaints of one competitor against another.

TRADE OFFS

Often there are urgent needs in the health care field that can be thwarted if too many structural regulations are put in place; yet without them, quality can suffer and consumers can be continually duped. As the home health care field grew, consumers were demanding this new option and wanting access to the service before there were enough qualified providers. Credentialing of aides quickly became an issue, just as the credentialing of nursing home aides has been an ongoing debate.

It is argued that dental, vision, and hearing screening can be done more inexpensively and efficiently by paraprofessionals. However, where should cost saving stop? (The Wall Street Journal discovered that medical technicians were performing pap smears at home.) Is there a difference if the free screening service is an end in itself as opposed to a "come on" with an economic not a service motive?

Should consumers be given a choice of trade-offs, for example between cost and quality? What about between costs and the risk that a health problem will be missed? Should people be forced to go to professionals for their own good?

Can alternative protections be substituted for structural regulations such as credentialing? For example, can a 30-60 day trial period for hearing aids be an adequate safeguard against an incompetent dispenser? a dishonest one?

CONSUMER ADVOCACY ROLE

AARP is not alone in wanting to expand some types of regulation while eliminating others. Ralph Nader and his associates fought against restrictions on a lawyer's right to advertise that resulted in a high court victory. They defended a paralegal sued by a local bar in Florida for practicing law without a license; she had filled out paperwork for a modest fee and thus made uncontested divorces cheaper. They have supported economic deregulation in the transportation industry. But Nader has not focused on unnecessary and restrictive regulations as part of an anti-regulation philosophy. He has continued to pound away at the need for health and safety and consumer protection regulation. Whereas, in recent years, the FTC has been more motivated, it seems, to relax or remove public and private restraints and to challenge related state laws than to develop new federal regulations or to initiate industry-wide rulemaking procedures. We need to be cognizant of the fact that the debate over structural regulation in health care and other fields often occurs within a larger context of professional turf battles, political ideologies, and contested regulatory philosophies.

AARP wants older people to have the benefits of competition and the protections of targeted and sensible government oversight. Staff members work on health care cost containment and health care options (HMOs, home health care), on quality issues, on liability and malpractice issues, and on consumer protection and redress issues. In all these areas, as an Association with a diverse membership, we grapple with many of the creative tensions outlined above.

REFERENCES

AARP, (1986), "Unreasonable Regulation=Unreasonable Prices: A Report on the Effect of Certain State Occupational Licensing Regulations on Consumers", prepared by the Regulatory Alternatives Development Corporation for the Consumers Affairs Section, Program Department, American Association of Retired Persons.

____, (1987), "Effective Physician Oversight: Prescription for Medical Licensing Board Reform", Health Advocacy Services, Program Department, American Association of Retired Persons.

Donabedian, Avedis (1978), "Medical Care Appraisal--Quality and Utilization", in A Guide to Medical Care Administration, Vol. II, The Program Area Committee on Medical Care Administration of the American Public Health Association.

QUALITATIVE RESEARCH: ITS CONTRIBUTIONS, DATA COLLECTION METHODS, AND CONTINUING CONTROVERSIES

Les R. Dlabay, Lake Forest College[1]

Qualitative research can provide insights into consumer activities and other marketplace phenomena which would not be possible with a quantitative investigation. Common concerns that surround qualitative research include small, nonrepresentative samples, unstructured data collection methods, difficulty in the replication and validation of results, and inconsistent data analysis techniques. Despite these limitations, qualitative research is a necessary tool for the creation and advancement of certain types of knowledge.

In many environs, scientific research is associated with quantitative models and numeric analysis. The notion of qualitative research is frequently viewed as making less of a contribution to knowledge than investigations associated with statistical documentation. But certain aspects of our existence are not conducive to numeric scrutiny. These areas include the evaluation of political theories, sociological phenomena, and literary criticism (Bartos, 1986). In an effort to appreciate the contribution of subjective evaluation, this paper will address the following aspects of qualitative research:

- conflicting perceptions of quantitative and qualitative research,
- the nature of qualitative research,
- qualitative investigate approaches, including research designs and data collection methods, and
- concerns that can limit the value of qualitative data.

CONFLICTING VIEWS OF RESEARCH

While quantitative and qualitative are viewed by some as mutually exclusive processes, this view is not present in all fields. In chemistry, qualitative analysis identifies what kinds of elements exist in a substance. Quantitative analysis attempts to determine how much of each elements exists (Stewart, 1982). From a marketing perspective, the numeric data provide knowledge as to the frequency of a behavior while qualitative investigations may reveal motivation for the action. But too often, as Lynch (1983) observes, in social science research the labels are used to distinguish between the degree of manipulation in a research effort. Qualitative has become associated with observational studies in a naturalistic setting; while quantitative efforts imply manipulated variables with an experimental research design.

Some individuals view quantitative research as more objective than its counterpart, but obviously this is not always true when one considers the subjective decisions associated with hypothesis creation, sample selection, and data interpretation. Table 1 suggests some of the common perceptions held about each approach. Please note these are beliefs held by select individuals, and do not represent the reality of either technique. Both research methods can make contributions to consumer researchers and decision makers. Quantitative studies may have limited capacity to provide insights on a phenomenon, while qualitative data lack certain properties that allow it to be tabulated. As technological advances have made numeric studies faster and easier to implement, increased demands are heard from policy makers and others to explain the numbers.

TABLE 1. Common Perceptions (and Misconceptions?) of Quantitative and Qualitative Research

Quantitative Research	Qualitative Research
• utilizes numeric quantities, greater and lesser values are clear	• involves descriptions of attitudes, feelings, and impressions; degree of differences and comparative worth is very subjective
• involves large representative samples projecting to a population	• involves small, frequently, judgmental samples with limited generalizability
• highly structured data collection	• unstructured data collection
• can provide conclusive, definitive results	• usually provides exploratory data and insights into a situation
• limited number of research designs available; ease of replication	• many variations of research designs may be adapted to different situations
• deals with objective, measurable behavior	• deals with emotional and textual aspects of behavior and attitudes
• data results require analysis	• some feedback is immediate with research design adaptations possible
• generally expensive, time consuming	• relatively inexpensive, requiring less time
• analysis involves prespecified rules for data reduction	• analysis involves less structured approach
• researcher requires statistical training	• researcher training emphasizes human relation skills

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TABLE 1...continued

Quantitative	Qualitative
• minimal interviewer skills required	• high level of interviewing skills are required
• researcher is external to process	• researcher may be involved in process
• presupposed cause-effect relationship	• seeks cause-effect relationship
• has reputation of tables of figures	• has connotation of descriptive reports

THE NATURE OF QUALITATIVE RESEARCH

We make constant use of intuitive skills with regard to the arts and human relationships. No need exists to quantify these aspects of our existence. Subjective judgments are also vital in the consumer decision-making process, making qualitative research methods a valuable investigative device.

A Definitional Overview

Patton (1980) provides a foundation for qualitative research and insights into the process:

> Qualitative data consist of detailed descriptions of situations, events, people, interactions, and observed behaviors; direct quotations from people about their experiences, attitudes, beliefs, and thoughts; and excerpts or entire passages from documents, correspondence, records, and case histories. The detailed descriptions, direct quotations, and case documentation of qualitative measurement are raw data from the empirical world. The data are collected as open-ended narrative without attempting to fit program activities or peoples' experiences into predetermined, standardized categories such as the response choices that comprise typical questionnaires or tests.

Research Applications

Qualitative research is viewed as making the greatest contributions in the areas of

- generating hypotheses for further testing
- developing research strategies to be used when gathering data
- exploring new fields and concepts related to consumer decisions and purchasing patterns
- interpreting results obtained from quantitative research.

Positive Aspects of Qualitative Research

Qualitative research can provide the following benefits:

- insights into consumer behavior and attitudes not possible with quantitative research
- a synergism and snowballing of ideas and information with certain data collection methods (Hess, 1968)
- a two-way interaction with research subjects which can serve as a self-correction feature during the process (May, 1978)
- attractive results for top-level decision makers who desire a complete, humanistic view of a situation rather than "cold" data.

Common Criticisms and Drawbacks

In contrast, frequently cited limitations of qualitative research include:

- small samples may not be representative of a population, thus limited the generalizability of results
- an interactive environment (focus groups, in-depth interviews) can bias respondents and influence individual behavior by creating unintended or unwanted effects (Fern, 1982)
- the interpretation of results and analysis of data can be biased by personal preferences of the researcher.

THE QUALITATIVE RESEARCH PROCESS

When designing and implementing qualitative studies, the factors to consider are similar to those in other investigate approaches.

Research Designs

Miln (1979) suggested a qualitative research design similar to other types of studies. The components would include problem definition, selection of research methodology, sampling procedures, collection of data, data analysis, data interpretation, and development of conclusions and recommendations. In a more specific context, Calder (1977) identified three major approaches for qualitative research:

- exploratory designs attempt to generate or select theoretical ideas and hypotheses which can be viewed as prescientific knowledge
- clinical designs seek psychological and sociological explanations for attitudes and behavior, and are referred to as quasiscientific knowledge
- phenomenological designs have respondents describe in detail their behavior and reasons for attitudes, with this data categorized as everyday knowledge.

Each design has a distinct purpose with regard to the type of knowledge desired and the research problems for which it can be used. These approaches can serve as a framework for the planning and implementing qualitative research studies.

Data Collection Methods

The range of unstructured data collection methods is wide (see Table 2), with each providing unique characteristics.

TABLE 2. Qualitative Data Collection Methods

Technique	Major Research Use
• observation	• to record overt consumer behavior and marketplace activities
• focus group	• to generate ideas and to obtain information on existing and proposed practices
• in-depth interview	• to obtain insights regarding motivations related to specific behaviors
• projective techniques	• to determine underlying beliefs and attitudes related to consumer behavior
• panels	• to collect qualitative data with the use of an on-going group of respondents

Observations. McKinlay (1975) documented the approaches, data collection techniques, and statistical methods available for use in observational studies. A debate exists as to whether observations are quantitative or qualitative research models. While numeric values are frequently used, a great deal of subjectivity is involved when deciding what and how to record certain behaviors. In addition, the interpretation of the behavior requires a qualitative approach. Observational studies can range from the viewing of an interpersonal relationship between parent and child in a supermarket (Atkin, 1978) to building statistical models regarding product consumption patterns based on garbage analysis (Rathje, Hughes, and Jerighan, 1976).

Focus Groups. Groups interviews are currently being used to obtain hidden thought and attitudes toward such items as the working environment in an organization, company policies, and work quotas. In addition, newspaper editors use focus groups to assess new features, plan graphic changes, and measure columnist appeal. Lawyers use the method to test arguments before presenting them in court. And, universities stage focus groups to plan recruiting and fund raising campsigns (Bennett, 1986). In this group discussion atmosphere, a researcher hopes to gather insights into behavior and thinking. "Rather than using a structured question-and-answer methodology, the procedure is to encourage a group to discuss feelings, attitudes, and perceptions about the topic being discussed" (Bellenger, Bernhardt, and Goldstrucker, 1976).

The value of focus group data is the result of effective leadership and group interaction. Successful moderators possess the personal qualities of flexibility, compassion, empathy, kindness with firmness, encouragement, and sensitivity (Goldman, 1962; Levy, 1979). Regarding group interaction, Quiriconi and Dorgan (1985) identified three major personality types involved in focus groups--unconventional types, conventional types, and altruistic types. An awareness of individual behavior related to personality can help in selecting focus group participants, and can assist a moderator in encouraging and controlling certain respondents.

In-depth Interviews. Sokolow (1985) identified the following advantages of the personal depth interview over the focus group:

- eliminates group influence bias
- provides "thoroughness of self-disclosure"
- research subject has constant attention of interviewer
- allows informational probing in depth which increases the quality of content obtained.

As with other qualitative data collection methods, Berent (1966) suggests that the depth interview can be the basis for planning a quantitative survey or for obtaining insights into survey results. Berent cautions in using results of depth interviews without testing the findings with quantitative research.

Projective Techniques. Haire (1950) found projective research methods useful for revealing motives below levels of verbalization. Klopfer and Taulkee (1976) suggested that projective techniques identify creative capacities, hidden human resources, and potentialities currently not in use. Lindzay (1959) offered a typology of projective techniques consisting of five categories:

- associative techniques in which subjects respond to some stimulus presented to them
- construction techniques have subjects creating a product in an art form such as a story or picture
- completion techniques present subjects with some type of incomplete product
- choice or ordering techniques involve the selection of an item or creation of an arrangement based on a specified criterion
- expressive techniques are designed to reveal and express the manner and style of a process rather than the end product.

While a major controversy surrounding projective research methods is the lack of consistent analysis, Kassarjian (1974) reported highly correlated interpretations among experienced researchers.

Panels. While the focus group is usually a single data-gathering effort, Fuller (1984) suggested on-going qualitative panels. The Delphi panel (Cassino, 1984), created by the Rand Corporation after World War II, was used to predict the consequences of nuclear war and other future episodes. The Delphi method is a consensus-building model for short-term decision making and conflict resolution. Current uses of the technique range from predicting product success to forecasting future social conditions.

Members of a Delphi panel do not know the others involved in the process. A series of questionnaires are circulated with panel members viewing the responses of others on a topic. Usually after two or three rounds, consensus is achieved since the emphasis is on "listening" to the views of others without distractions of personal contact (Hartman, 1981). This technique has many variations and is called the "key-informant" or "expert-opinion" survey by some (Parasuraman, 1986).

CONTINUING CONCERNS

To improve the value of qualitative research, three potential problem areas should be addressed. These concerns relate to research subjects, reliability and validity, and data analysis.

Respondent Selection

Judgment samples are most frequently used in qualitative studies. This decision is usually made to obtain respondents who are knowledgeable in the area being investigated (Bellenger, Bernhardt, and Goldstrucker, 1976). While this research design component can result in non-representative participants, May (1978) suggests a value and procedure in using judgment samples. The sampling error frequently associated with qualitative studies may be a valid tradeoff for a relatively low nonsampling error which can provide increased confidence of the findings. The use of many qualitative studies involving large numbers of subjects can help to minimize the criticism of small, nonrepresentative samples while taking advantage of the benefits provided by qualitative research methods.

Reliability and Validity

The difficulty associated with replication of most qualitative studies is another concern (Kover, 1983). This problem results from the flexibility associated with qualitative research methods. Frequently, procedures are adapted while in process due to the nature of the research problem, characteristics of research subjects, or changing social and economic environments. Kover (1983) further suggests that qualitative research may in fact possess greater objectivity than quantitative studies since participants are allowed to express their beliefs, attitudes, and insights on a topic rather than being limited to the parameters set by the researcher.

Evidence exists that qualitative research can provide consistent and useful results. Reynolds and Johnson (1978) reported that focus groups revealed the same results as a quantitative survey of shopping attitudes and habits on all issues except one. Sales data later revealed that the qualitative research finding was a more accurate reading of the market than the quantitative investigation for the item with differing results.

Data Analysis

With words being the main component of qualitative data, reduction and analysis of data is difficult. Miln (1979) suggests that findings should be quantified whenever possible, but also points out that numeric measurement may not always be possible or desirable.

The use of content analysis techniques is commonly associated with qualitative data, especially when generating hypotheses or developing conclusions (May, 1978). Bellenger, Bernhardt, and Goldstrucker (1976) suggest a seven-step process for content analysis: (1) specificy needed data, (2) map out plans for tabulation, (3) lay out a skeleton of the outline, (4) fill in categories for each variable, (5) establish procedures for unitizing the material, (6) try out the analysis outline and unitizing procedure, and (7) use the analysis outline and interpret the results. This is based on two inferences. First, that responses are indicative of the participants' attitudes, opinions, and beliefs. And second, the sample data obtained, and analysis that follows, provide insight into the behavior of larger groups of people.

Another framework for data analysis is advocated by Miles and Huberman (1984). This process consists of three phases:

- data reduction involves selecting, focusing, simplifying, abstracting, and transforming concepts and content
- data display is "an organized assembly of information that permits conclusion drawing and action taking" usually in the form of a narrative text
- conclusion drawing/verification involves adding meaning to the text by noting regularities, patterns, explanations, possible configurations, causal flows, and propositions, while developing consensus to replicate findings with other data.

Grunert (1986) takes the content analysis process one step further with the use of computer-assisted procedures. This technique creates associated links of cognitive behaviors based on word frequency and proximity.

CONCLUDING COMMENTS

Research to create meaningful and useful information must be conducted with a scientific rigor that results in the advancement or creation of documented knowledge. Lynch (1983) suggests that the decision to follow either a quantitative or qualitative methodology will depend on the nature of the inquiry, the type of data to be collected, and the data collection method. For qualitative research to best serve the needs of policy and decision makers, the following guidelines are offered:

1. make use of both quantitative and qualitative research methods to gain complete insight into a topic; conduct cross validation studies

between the two inquiry methods as done by Greenway and de Groot (1983) and Reynolds and Johnson (1978).

2. structure qualitative research designs for consistency of implementation and to allow replications to be conducted.
3. present qualitative data for analysis and interpretation by more than one person to avoid biased research results.
4. use respondent selection methods that are representative of larger populations.

Since certain types of information may only be obtained with qualitative research methods, this investigative approach is a necessity for various studies. Well formulated qualitative investigations can be as information as quantitative studies for bridging gaps in knowledge while also adding depth and insights into consumer activities.

REFERENCES

Atkin, Charles K. (1978), "Observation of Parent-Child Interaction in Supermarket Decision-Making," Journal of Marketing, 42 (October): 41-45.

Bartos, Rena (1986), Qualitative Research: What It Is and Where It Came From, New York: Advertising Research Foundation.

Bellenger, Danny N., Kenneth L. Bernhardt, and Jac L. Goldstrucker (1976), Qualitative Research in Marketing, Chicago: American Marketing Association.

Bennett, Amanda (1986), "Once a Tool of Retail Marketers, Focus Groups Gain Wider Usage," The Wall Street Journal, 67 (June 3): 28.

Berent, Paul H. (1966), "The Depth Interview," Journal of Advertising Research, 6 (June): 32-39.

Calder, Bobby J. (1977), "Focus Groups and the Nature of Qualitative Research," Journal of Marketing Research, 14 (August): 353-364.

Cassino, Kip D. (1984), "Delphi Panel: A Practical 'Crystal Ball' for Researchers," Marketing News, 18 (January 6), Section 2, 10.

Fedder, Curtis J. (1985), "Listening to Qualitative Research," Journal of Advertising Research, 25 (December): 57-59.

Fern, Edward F. (1982), "The Use of Focus Groups for Idea Generation; The Effects of Group Size, Acquaintanceship, and Moderator on Response Quantity and Quality," Journal of Marketing Research, 19 (February): 1-13.

Fuller, Linda (1984), "Use of Panels for Qualitative Research," Journal of the Market Research Society, 26 (July): 209-220.

Goldman, Alfred E. (1962), "The Group Depth Interview," Journal of Marketing, 26 (July): 61-68.

Greenway, Gill and Gerald de Groot (1983), "The Qualitative-Quantitative Dilemma: What's the Question?," Journal of the Market Research Society. 25 (April): 147-164.

Grunert, Klaus G. and Margarete Bader (1986), "A Systematic Way to Analyze Focus Group Data," unpublished paper, University of Honenheim, West Germany.

Haire, Mason (1950), "Projective Techniques in Marketing Research," Journal of Marketing, 14 (April): 649-656.

Hartman, Arlene (1981), "Reaching Consensus Using the Delphi Technique," Educational Leadership, (March): 495-497.

Hess, John M. (1968), "Group Interviewing," 1968 Fall Conference Proceedings, Chicago: American Marketing Association, 193-196.

Kassarjian, Harold (1974), "Projective Methods," in Robert F. Ferber, ed., Handbook of Marketing Research, New York: McGraw-Hill Book Co.

Klopfer, Walter G. and Earl S. Taulkee (1976), "Projective Tests," Annual Review of Psychology, 543-567.

Kover, Arthur (1983), "Point of View: The Legitimacy of Qualitative Research," Journal of Advertising Research, 23 (January): 49-50.

Levy, Sidney L. (1979), "Focus Group Interviewing" in James B. Higginbotham and Kaith K. Cox (eds.), Focus Group Interviews: A Reader, Chicago: American Marketing Association, 34-42.

Lindzey, Gardner (1959), "On the Classification of Projective Techniques," Psychological Bulletin, 56 (No. 2): 158-168.

Lynch, Kathleen Bodisch (1983), "Qualitative and Quantitative Evaluation: Two Terms in Search of a Meaning," Educational Evaluation and Policy Analysis, 5 (Winter), 461-464.

May, J. P. (1978), "Qualitative Advertising Research--A Review of the Role of the Researcher," Journal of the Market Research Society, 20 (October), 203-218.

McKinlay, Sonja M. (1975), "The Design and Analysis of the Observational Study--A Review," Journal of the American Statistical Association, 70 (September), 503-523.

Miles, Matthew B. and A. Michigan Huberman (1984), Qualitative Data Analysis, Beverly Hills, CA: Sage Publications.

Miln, D. A. (1979), "Qualitative Research--A Summary of Concepts Involved," Journal of the Market Research Society, 21 (April): 107-124.

Parasuraman, A. (1986), Marketing Research, Reading, MA Addison-Wesley Publishing Co.

Patton, Michael Quinn (1980), Qualitative Evaluation Methods, Beverly Hills, CA: Sage Publications.

Quiriconi, Roy J. and Richard E. Dorgan (1985), "Respondent Personalities: Insight for Better Focus Groups," Journal of Data Collection, 25 (Fall): 20-23.

Rathje, William J. Wilson W. Hughes, and Sherry J. Jernigan (1976), "The Science of Garbage: Following the Consumer Through His Garbage Can," Marketing Looks Outward: 1976 Business Proceedings, Chicago: American Marketing Association.

Reynolds, Fred D. and Deborah K. Johnson (1978), "Validity of Focus-Group Findings," Journal of Advertising Research, 18 (June): 21-24.

Sokolow, Hal (1985), "In-Depth Interviews Increasing in Importance," Marketing News, 19 (September 13), 26.

Stewart, Jennifer (1982), "Qualitative Research Isn't Marketing Research: New Name May Promote Use of Tools," Marketing News, 16 (January 22), Section 2, 9.

QUALITATIVE RESEARCH DESIGNS AND ISSUES: ALTERNATIVE METHODOLOGIES FOR CONSUMER RESEARCH

ANALYSIS TECHNIQUES FOR QUALITATIVE DATA

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Problems facing qualitative methods in consumer research are discussed. Programs for computer-assisted data analysis are introduced. Optical Character Scanners are offered as hope for an underutilized approach to scholarly investigation in the consumer area.

When Les Dlabay proposed this session, he understood the need to stimulate an exchange of ideas about using qualitative methodologies in consumer research. Because I had become familiar with using some applications of content analysis in my research, Les contacted me to be a discussant for this panel presentation. In those early conversations we considered some of the basic issues which I will be addressing today.

One problem for qualitative research and researchers is the prevailing opinion that qualitative data present few problematic methodological issues (Miles, 1983). Qualitative studies are eyed with suspician by academics who view this work as "quick and dirty" analysis with little to offer. It is my hope that our panel today will illustrate that nothing could be more distant from the truth.

Another focused problem for qualitative methods is the bundle of misconceptions that exists about this research approach. For example, most people believe that content analysis is a qualitative methodology. Yet, content analysts believe that their method is a quantitative analytical technique because by definition, it quantifies communication messages. Futhermore, studies with content analyses have used some of the most sophisticated quantitative statistical techniques available.

After examining a small sample of the literature in preparation for this presentation, I found at least three journals devoted to reporting research and theory about qualitative methods and several journals devoted to computer analysis of qualitative data. The literature also reflected what Les and I had discovered during our discussions -- there is no firm agreement about the definition or application of qualitative research. Indeed, different disciplines squabble about the "correct" approach to executing qualitative studies and data analysis.

There is general agreement that qualitative and quantitative are not dichotomous attributes. Rather, they are viewed as falling along a continuum. Additionally, as observed by Holsti (1969), whether stated explicitly or not, the most rigorous quantitative studies use non-numerical procedures at various stages of the research process. This fact may best be illustrated by one of the most important steps in the research process -- the literature review.

It is unfortunate that the term "qualitative" is correlated with unscientific research while quantitative research is viewed as scientific (Van Mannen 1983). The artificial dichotomy becomes more interesting when we consider applied vs. theoretical research and observe the almost stereotypical gender-based association. Qualitative methods are at times associated with applied, soft, almost feminine sounding adjectives while quantitative methods are more frequently associated with theoretical, hard, almost masculine sounding adjectives.

Either qualitative or quantitative research methods can be used for developing theory or applied research. Holsti (1969) observed that it should not be assumed that qualitative methods are insightful while quantitative techniques are mechanical methods for checking hypotheses. Yet, quantitative analytical methods are almost always associated with theoretical research, while qualitative analytical methods are seen as applied.

Even a small review of the literature will illustrate how these stereotypes reflect an ignorance about the characteristics and capabilities of either type of data analysis. Futhermore, in terms of qualitative analysis, these myths stunt the development and growth of a qualitative component for research in the social sciences (Taylor and Bogdan 1984). It is true that qualitative studies can be used in an unsystematic way and can be poorly executed. I have personally encountered numerous examples of unsystematic content analyses in the consumer literature (Hayes and Jensen, 1986). But, qualititative studies mirror similar flaws. If a study used regression analysis inappropriately, would blame fall on the analytical technique or the person who misused it?

COMPUTER ANALYSIS

Today, I want to discuss some developments in the field which many believe will change the way we approach qualitative research (Heise 1981). Computer assisted analysis of qualitative dâta is the logical direction to follow. However, it still has some problem areas that are primarily a result of relatively primitive hardware and software. At least they offer the potential to

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"destigmatize" the area. I am not an expert in this area and I have not yet physically interacted with the programs I am discussing today. I bring them to your attention for the sake of information exchange.

KWIC

Key-Word-In-Context or KWIC list programs are one of the most basic and widely used types of text-processing programs for social science language studies. KWIC is basically a concordance or index program (Wood 1984). Many of you are famililar with Bible concordances or you may use concordances as codebooks for very large data sets. They are widely used for bibliographic searches. This type of system exists at several levels of sophistication and cost, however, it can be given different names in other discipline areas.

Weber (1985) presents a basic use of the KWIC concordance program. A study which examined the content of the party platforms from the 1980 Presidential elections analyzed the word "Rights" as it was used by Regan and Carter. For this study, KWIC was instructed to list a certain number of words to the right and left of the key word. (It could list the entire paragraph or only X number of words after the key word). The program can also be used to analyze themes once it is instructed which key words or phrases represent which themes.

These lists can draw attention to the variation or consistency in word meanings and usage. They provide systematic information that is helpful in determining whether the meaning of particular words is dependent upon their use in certain contexts. Concordances lend themselves to the intensive study of a few specific symbols like "consumer rights" or "marital property reform." Accordingly, investigators must translate hypotheses into concern with the presence, absence or pattern of occurrence of specific symbols. KWIC lists can also be used to generate word frequency counts. Weber (1985) cites a study that compared the content of presidential platforms in 1976 and 1980. Not surprisingly, Reagan's use of words like "Soviet", "military," and "defense" ranked high. While Carter used words like "health," "women," and "education" more frequently.

There are serious problems with using word frequency counts. For example, word frequencies don't reveal much about the associations among words and any one word can have many meanings. Fortunately, there are more sophisticated uses of these programs. Word or phrase counts based on their co-occurrence with other words in a sentence or even a paragraph can be used. Using KWIC lists, factor analysis is often applied to category counts in order to identify themes in a text (Wood, 1984).

These programs could have a number of applications for consumer and family economic concerns. How many consumer issues did political hopefuls address during their election campaigns? It would be wonderful to have a concordance to the JCA instead of the limited index which currently exists and a concordance to the documents that are housed in the Consumer Historical Document Library.

Consumer research could investigate how certain concepts or theories are being applied by reseachers from different disciplines. Another application would be to examine certain words such as "consumerism." Is it changing from a term that meant," a social movement to protect and enhance the rights of consumers," to a term that means, "a society that values a materialistic lifestyle?." In an historical context, how was the word "consumerism" or the phrase "consumer movement" used from different media sources during the rise and fall of the last consumer era? How do different print media cite Ralph Nader or discuss consumer groups in general?

Commitment to Method

For those researchers who are unfamiliar with qualitative methods, useful research applications with these programs will require two things. First, become familiar with content analysis. In my opinion content analysis is the best starting place because it provides structured, systematic methods. Once, these skills are mastered, consider experiencing the less structured, less systematic qualitative methods.

Simply reading one article that used the method and copying its approach is not sufficient. It could represent misuse of the method. Additionally, relying on one survey article about content analysis provides a shallow level of knowledge. Know the method's standards for the way you are using it. Become familiar with what approaches are available, useful and considered acceptable by other scholars who are knowledgeable about the overall methodology. Especially important are the issues discussed about research design and your dedication to the systematic nature of the method.

Second, try to become acquainted with some of the computer packages and their capabilities. I have spent time discussing KWIC because it is:
1. Widely available; 2. Reliable (you can eliminate many of the coding errors that you experience in hand coding an entire data set); and
3. It is relatively inexpensive to use given the time and cost of hand coding (Weber, 1985).

Additional Computer Programs

I also want to let you know about three computer programs that were specifically developed to be used in the analysis of qualitative data: NUDIST (Richards and Richards 1987), QUALOG (Hiemstra, Essman, Henry and Palumbo 1987) and CATS (Podolefsky and McCarty 1983). These programs were developed with the idea that social scientists will change the way they actually do research by interacting with microcomputers.

Although computers have had a major impact on the analysis of numerical data, they have played a relatively minor role in the analysis of qualitative information. Part of the problem lies with the fact that we tend to assume that computers always perform computations (Wood, 1984). Unfortunately, as Richards and Richards (1984) point out, methods to analyze numbers, both in a statistical sense and in data management, are more developed than methods to investigate unstructured text. For example, in the past, common strategies for managing field data have been xeroxing records, dividing them into categories and placing them in file folders. This process is also known as the "scissor, circle and file" technique (Podolefsky and McCarty 1983).

The computer programs that I have listed offer at least the potential to not only solve these bothersome and possibly unsystematic methods, but also present a new way of analyzing the data once a data base has been established. Let me give you one small example. Qualitative analysis involves an ongoing process of concept formation, and development of categories. Even with traditional methods of hand coding content analysis it is extremely difficult to keep revising your categories and definitions. This situation is always true if you are working with a data base in which the data are already collected, coded and exist in some machine readable form.

These programs were established with the belief that the investigator must be able to interact with the data, no matter how large or complex the data set. These programs will allow you to set up a new category or a subcategory in a few seconds. They also allow you to keep exact notes and records of what you changed and WHY you decided to change it. Additionally, once you have established a data base (i.e. all of your records are in machine readable form), other reseachers can start with a clean slate and either try to replicate what you did or ask other questions of the same data.

After talking with our computer science "experts" and our local library science expert, NUDIST (Richards and Richards 1987) seems to offer the greatest flexibility of these programs. It was developed by a sociologist and computer scientist in Australia to analyze five years worth of semi-structured taped interviews and took seven years to develop. They were exploring the themes of "neighboring, privacy and homeownership."

The program's developers maintain that it can answer questions about patterns that occur in the data almost instantly. Did all of a certain type of comment come from non-white, female, migrant workers? Specific comment categories (e.g. privacy) can also be retrieved using designated respondent characteristics (e.g. female, divorced, with school aged children and employed full time). In other words, as with quantitative analysis, this type of program allows the provisional testing of hypotheses by investigating concomitant variation, ruling out spurious or confounding factors, and assessing conditions that may explain variation (Richards and Richards 1987). Moreover, with all three of these programs, the analyst is not locked into one exploratory process. Categories and units of analysis can easily be altered.

According to Conrad and Reinhartz (1984) these computer-assisted applications of qualitative research offer several other advantages: 1. We can begin to think of new ways of triangulating qualitative and quantitative data analysis; (The "multiple operation" approach to research can become more of a reality); 2. These systems provide documentation for the development of systematic and reliable methods for analysis. (Computers can keep track of the complete evolution of the study -- including all of those "messy" but necessary details and the documentation process should facilitate collaboration and sharing of ideas among researchers); 3. One of the long-range consequences predicted to occur from the integation of computers and qualitative data is the breakdown of the polarization of qualitative and quantitative research.

It's difficult to discuss these programs. Recently, I spoke with an extension specialist about these programs. He said that extension already had access to interactive bibliographic searching services. But, that response is a misunderstanding of these programs. They are capable of providing much more detail than providing a list of references or even summary abstracts. Once the data are entered and the data base has been established, they can be retrieved in many units of analysis -- words, sentences, paragraphs or complete articles. Data retrieval is similar to the "hypertext" idea or, on a less sophisticated level, the "hypercard."

OPTICAL CHARACTER SCANNERS

To create qualitative, computerized data bases, how can we realistically spend hours and hours manually entering records, memos, books, articles -- whatever form that unstructured text data takes? Be patient. Optical Character Scanners are coming. They're dropping in price, becoming more portable and more capable of reading different types of fonts and different character lengths. There is a hand held unit on the market for about $1,500. I am as yet unsure about its ability to read "typeset" print, but the point to note is that along with software, hardware is also developing which will allow the management and analysis of qualitative data.

REFERENCES

Conrad, Peter and Shulamit Reinharz, (1984), "Computers and Qualitative Data: Editor's Introductory Essay," Qualitative Sociology, 7 (1/2) Spring/Summer, 3-15.

Hayes, J. R. and T. Jensen (1986), "Content Analysis and Consumer Research," Proceedings of the American Council on Consumer Interests 32nd Annual Conference, St. Louis, MO: 214.

Heise, David R., Ed. (1981), "Microcomputers and Social Research." *Sociological Methods and Research*. (special issue) 9, 395-536.

Heimstra, Roger, Elizabeth Essman, Norbert Henry, and Dorothea Palumbo (1987), "Computer-Assisted Analysis of Qualitative Gerontological Research," *Educational Gerontology*, 13 (5): 417-426.

Holsti, Ole R. (1969) *Content Analysis for the Social Sciences and Humanities*. Reading, MA: Addison-Wesley.

Krippendorff, Klaus (1980), *Content Analysis: An Introduction to Its Methodology*. Beverly Hills: Sage.

Miles, Matthew B. (1983), "Qualitative Data As An Attractive Nuisance: The Problem of Analysis" In John Van Maanen (ed.), *Qualitative Methodology*, Beverly Hills: Sage.

Podolefsky, Aaron and Christopher McCarty (1983), "Topical Sorting: A Technique for Computer Assisted Qualitative Data Analysis" *American Anthropologist*, 85, 886-889.

Richards, Lyn and Tom Richards (1987), "Qualitative Data Analysis: Can Computers Do It?" *Australian and New Zealand Journal of Sociology*, 23 (1), 23-35.

Taylor, Steven J. and Robert Bogdan (1984), *Introduction to Qualitative Research Methods: The Search for Meanings*. New York: John Wiley & Sons.

Van Maanen, John (ed). (1983), *Qualitative Methodology*. Beverly Hills: Sage.

Weber, Robert Philip (1985), *Basic Content Analysis*, Beverly Hills: Sage.

Wood, Michael (1984), "Methodological Observations on Applied Behavioral Science," *The Journal of Applied Behavioral Science*, 20 (3): 289-297.

ACHIEVING RELIABILITY AND VALIDITY IN QUALITATIVE RESEARCH

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In Consumer Studies we have traditionally engaged in quantitative research favoring quasi-experiments and survey designs. Quasi-experiments have dominated consumer education research and survey designs have been most evident in measuring consumer response to environmental considerations. We have particularly emphasized the importance of large sample sizes and have become increasingly reliant on randomly sampled secondary data sets as these have given us confidence in the validity and reliability of our results. Sophisticated statistical analyses have enabled us to test researcher developed models on consumer behavior, price effects and predicted response social welfare initiatives. To a discipline so grounded, the idea of qualitative research - a methodology which emphasizes depth of information utilizing small homogeneous or heterogeneous samples is suspect.

Qualitative research techniques such as participant observation and depth interviews are respected and regularly used in the social sciences, particularly sociology and anthropology. These used enthographic studies to examine conditions of poverty and culture. Observation and field work have been used in educational settings over the past few decades (Bogdan & Biklen (1982). Qualitative research methodologies have also been used in consumer behavior and marketing studies. Within marketing the group depth interview [focus group] is the most common method in use for 25 years. A focus group can be defined as a qualitative tool for collecting information in which a number of respondents simultaneously discuss a given topic under the guidance of a moderator (Fern, 1986).

Uneasiness about focus groups centers around the limitations of generalizability and reproducability of the method. The methodology appears antithetical to the scientific method. And while this paper will identify limitations of the method, it is essential to recognize that the scientific paradigm has inherent limitations. There is no one best research method. All methods are flawed, but they are flawed differently. A combination of different methods which complement each other should be used to arrive at scientific knowledge (McGrath & Brinberg, 1983). This paper examines focus group as a method for inclusion in consumer studies not as a replacement for current techniques in which we are well grounded.

QUALITATIVE vs QUANTITATIVE METHODS

Qualitative and quantitative research approaches differ substantially in goals and objectives as well as in processes. The underlying goal of qualitative research is to gain a depth of understanding on a phenomenon whereas the goal for quantitative research is to know the extent to which a phenomenon occurs or can be predicted to occur. The vast differences within research approaches depending on the research design are recognized. However, the explication of experimental vs. survey methods or differences observation and group interview techniques is beyond the scope of this paper.

Table 1 presents a general overview of differences between quantitative and qualitative research. While the table is by no means exhaustive, it highlights the major differences in intention and desired outcomes between the two general approaches while at the same time demonstrating the their compatibility. Quantitative studies generally attempt to arrive at some conclusion through the measurement of behaviors, occurrences or conditions of occurrence whereas qualitative research attempts to understand the reasons for the occurrence.

An examination of this table leads to some preliminary assessments on the reliability and validity of this qualitiative research. The motive and purpose of qualitative hint at the validity of the method when viewed in terms of the degree to which indicators are measuring the construct or to what extent we are truly measuring what we think we are. By investigating and delving into the attitudes behind behaviors and the relative stability of the behaviors we are better able to design reliable measures for quantitative studies. The sampling techniques for qualitative studies defy reproducibility. The number of group interviews per study depends upon the point at which no more new information is generated. Exploratory focus groups are often conducted for hypothesis generation or pretesting of product concepts, or questionnaires for quantitative study. To this end, the method is a precursor to quantitative research.

RELIABILITY & VALIDITY

Assessments of reliability and validity are the barometers by which we attempt to assess the degree to which the efforts of our research, or scientific inquiry yield knowledge. The induction method of arriving at knowledge has limitations and cannot lead to certainty. Through careful research design including multiple measures and replication we can arrive at some approximation of the truth.

Reliability is a necessary but not sufficient condition to assess the validity of a study. Reliable measures are those which remain stable over time. The three methods typically used to assess reliability are test-retest, alternate forms, and internal consistency of multiple item scales. Reliability of treatment implementation, the way in which a treatment is implemented by one or more persons and differences from time to time in the way the same individual administers

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TABLE 1: QUALITATIVE vs. QUANTITATIVE METHODS

Dimension	Qualitative Research	Quantitative Research
Purpose	identify nature & underlying causes of target group behavior	count to arrive statistically projectable results
Intent	investigatory	conclusion
Knowledge sought	prescientific	scientific if experiment description if survey
Objective	hypothesis generation	hypothesis testing [theory/model testing]
Goal	learn attitudes & motives which direct behavior	learn frequency & distribution
Sample size	8 to 10 per group 2 to 8 groups/ study	1000 common for survey 100+ for experiment
Sample selection	target groups	random selection or random assignment
Representativeness	unknown	probabalistic determination
Data collection	observations recorded on tape	written record; numerically coded
Data analysis	description of how & why responses were generated examined for insights	number of responses generated for statistical tests
Data reporting	narrative discourse	statistical methodology and test results
Implications for future action	leads to quantitative measures	basis for decision

the treatment. Both unstable measures and unstable treatment serve to inflate the error variance and attenuate the true results of the study. Qualitative research or focus groups for exploratory purposes are not designed to test for reliability of measures. However, due to sampling procedures, the premise for conducting the research, and the manner of questioning, achieving reliability is neither desired nor intended. Table 2 contrasts reliability of qualitative to that of quantitative research and delineates the limitations for focus groups as representative of qualitative and survey methodology as representative of quantitative.

The general purpose of focus groups is to explore motives, attitudes, and behaviors. Its goal is to seek out the widest range within a given population segment, albeit a judgement or convenience sample drawn from that segment. A typical focus group study might include as many as eight groups drawn from the same segment with each group giving a slightly differentiated view of the issue under study. Whereas a large survey asks the same questions in the same manner, the measures are more reliable than those of a focus group. In the focus group, similar questions are often asked in a somewhat different manner. In addition, two moderators might not elicit the same responses. However, it is possible to train people in the methods of qualitative investigation thereby increasing reliability. Interaction among the group participants might alter the responses indiscriminantly. For example, if a dominant participant is not controlled by the moderator, s/he might bias the responses of the remaining participants. The group dynamics inherent in the methodology can and frequently do contribute to unstability. Validity may be defined as the informativeness of a specific study for the development and support of hypotheses. Campbell and Stanley (1963) have defined two specific types of validity: internal validity and external validity.

Internal validity refers to whether the relationship between the independent and dependent variables is causal. It asks the question: "did the experimental treatment make a difference?" Eight possible threats to the internal validity of experimental studies have been delineated. (Campbell & Stanley, 1963). Qualitative and correlational [survey design] quantitative research studies to not attempt to identify cause and hence, the issue internal validity is not critical.

TABLE 2: RELIABILITY OF QUALITATIVE vs QUANTITATIVE RESEARCH

Dimension	Qualitative Research	Quantitative Research
Sample size	small sample size	large sample for projectable results
Sampling Procedure	ignores segments self-selection & interviewer convenience	probability selection self-selection is minimized [non-respondent survey]
Replications	interviews stopped when no new information is generated	sufficient number of observations to assure stability
Instrumentation	interviewerbias - elicit certain response	question bias would be systematic across all respondents
Interpersonal interactions	respondents can be in-influenced by interaction	no differential influences

External validity refers to generalizability of the findings of a research investigation. It asks the question: "To what populations and settings and these findings be generalized?" Construct validity, refers to the extent to which our measures of independent and dependent variables are operationally defined to capture the construct. This includes the degree that a measure assesses the magnitude and direction of a representative sample of the characteristics of the construct and the degree that the measure is not contaminated with elements from the domain of other constructs or error. Construct validity can only be inferred; it cannot be assessed directly (Peter, 1981). Construct and external validity are similar in that both deal with generalizations. The former is concerned with generalizations from the sample to the population and the latter with generalization from variables to constructs. Estimates of internal consistency reliability provide support for construct validity. Table 3 presents a comparison of qualitative and quantitative research on these issues of validity.

When qualitative research is used for exploratory purposes to either generate hypotheses or pretest questionnaires, the ultimate construct validity might be achieved. Latitude in the way questions are phrased and greater flexibility of response contribute to a higher construct validity in focus group than in quantitative survey design. Querying respondents in focus groups will provide the researcher with a clearer understanding of the respondents' view of the world. In designing a research project, it is often easier to use items that have been previously generated because it creates automatic legitimacy and acceptance among members of the academic community (McGrath, Martin & Kulka, 1982). Unfortunately these previously generated items might not represent the construct due to a variety of factors

TABLE 3: VALIDITY IN QUALITATIVE vs. QUANTITATIVE RESEARCH

Validity	Qualitative Research	Quantitative Research
Internal Validity	Not causal; not salient	Controlled by design in experiments.Not salient survey research
Construct Validity	More psychological valid representation of how & why people respond	Uncertain due to manner by which measures were developed
	Professional moderator can guide interview & questions	Depends in part on the researcher's familiarity with both theory and substantive issues
	Group members interaction leads to candid answers	
External Validity	Difficult to generalize beyond the target population to the population	If sample is random, results can be generalized to the entire population

including prior researchers' deficiency in the substantive area under study. For example, in a review of foodstore choices studies from 1969 to 1983, "availability of credit, social class appeal, and ease of return" were found on more than one list. These do not seem to be attributes salient to foodstore shoppers and hence, their inclusion in studies on the topic undoubtedly confounded the results.

The external validity of qualitative research is weak due to limitations imposed by sampling procedures. However, prior experience has shown that survey data often confirm the qualitative results.

ACHIEVING RELIABILITY AND VALIDITY

The previous sections of this paper differentiated qualitative from quantitative research. While qualitative research was shown to be superior in achieving construct validity, its reliability is generally inferior to that of quantitative studies. Attenuations resulting from differential implementation in qualitative studies can be minimized by training moderators and by training analysts to evaluate the transcripts of groups sessions in a consistent manner. In an empirical investigation on focus groups, Fern (1982) obtained a composite reliability coefficient of .75 when two students edited transcripts for major ideas.

Generalizability of results can be enhanced by enumerating all the response categories one wishes to represent such as age, sex, income, and purchase behavior and selecting the number of groups to assure sufficient representation on these variables. Experience indicates that most research issues can be addressed in six to eight groups.

SUMMARY AND CONCLUSIONS

The purpose of this paper was to address the limitations of qualitative research with regard to issues of reliability and validity. Its intent was to propose the qualitative method as an additional research strategy to be used in conjunction with quantitative methods. As stated earlier, all research methods are seriously flawed and as such they must be used in combination if we are to seek knowledge with any degree of certainty. The combination of methods we choose must be selected from classes with different vulnerabilities. "We can never know anything independently of the way we found it out. Empirical knowledge can gain credence only by accumulation of convergent results. Knowledge requires convergence of substantive findings derived from a diversity of methods of study." (McGrath, Martin & Kulka, 1982, p. 105).

REFERENCES

Bogdan, R. C. & Biklen, S. K. (1982). Qualitative research for education: An introduction to theory and methods. Boston: Allyn & Bacon, Inc.

Calder, B. J. (1977). Focus groups and the nature of qualitative marketing research. Journal of Marketing Research, XIV, (August), 353-64.

Calder, B. J., Phillips, L.W., & Tybout, A. M. (1981). Designing research for application. Journal of Consumer Research, 8 (September), 197-207.

Cook, T. D., & Campbell, D. T. (1979). Quasi-Experimentation: Design & analysis issues for field settings. Boston: Houghton Mifflin Co.

Fern, E. F. (1986) Focus group interviewing as a research tool. Unpublished paper.

Fern, E. F. (1982) The use of focus groups for idea generation: The effects of group size, acquaintanceship, and moderator on response quantity and quality. Journal of Marketing Research, XIX (January), 1-13.

Goldman, A. E., & McDonald, S. S. (1987). The group depth interview: Principles and practice. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Issac, S., & Michael, W. B. (1981). Handbook in research and evaluation. San Diego: EdITS Publishers.

Kenny, D. A., & Judd, C. M. (1982). Research design and research validity. In D. Brinberg & L. Kidder (Eds.) New Directions for Methodology of Social and Behavior Science, Forms of Validity in Research, no. 12. San Francisco: Jossey-Bass.

Lynch, J. G. (1982). On the external validity of experiments in consumer research. Journal of Consumer Research, 9 (December), 225-239.

McGrath, J. E., & Brinberg, D. (1983). External validity and research process: A comment on the Calder/Lynch dialogue. Journal of Consumer Research, 10. (June), 115-124.

McGrath, J. E., Martin, J., & Kulka, R. A. (1982). Judgement calls in research. Beverly Hills, CA: Sage Publications.

Peter, J. P. (1981). Construct validity: A review of basic issues and marketing practices. Journal of Marketing Research, XVIII (May) 133-145.

Peter, J. P. (1979). Reliability: a review of psychometric basics and recent marketing practices. Journal of Marketing Research, XVI, (February), 6-17.

Tull, D. S., & Hawkins, D. I. (1987). Marketing research: Measurement and method, fourth edition. New York: Macmillan Publishing Company.

A NUMBER CRUNCHER'S ENCOUNTER WITH QUALITATIVE RESEARCH

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This is a personal account of the Author's experiences in alternative methods of consumer research in contrast to large data sets and number-crunching studies.

INTRODUCTION

The overall goal of this session, as proposed by Dr. Dlabay, is to give some exposure to alternative methods of consumer research through "discussion of research designs/approaches you have taken or would use". For my contribution to this session, I will discuss approaches I have used to probe qualitative aspects of a research question. I should state at the outset that I will not be discussing methods of qualitative research: rather I will be touching on the interface of quality and cost factors in research in consumer and family economics. To this extent, "quantitative" to me implies measurability by the measuring rod of money.

My close encounters with quality aspects of research questions are an inevitable consequence of taking a traditional economics background to a consumer sciences department. Economic theory has become so refined that, given the right assumptions, it can be made to predict almost anything [2]. This was particularly evident in the case of the so-called new family economics. Rigorous application of quantitative economic models of choice to the family lead to many predictioons which were broadly consistent with key empirical knowns.

Yet the application of such models leaves much unexplained. Though a regression equation representation of an economic model of the family or the consumer (the norm for much of the field research) may come up with correct signs and a "reasonable" R-square, typically there is much in the residual that still needs to be accounted for - even beyond any suspected specification errors, errors in measurement, bad proxies or the like. It is here that quality factors enter. The road to explaining the unexplained may well lie in developing adjuncts to the traditional models through research of quality aspects of the problem.

In what follows, I will describe three approaches to research wherein quality and cost aspects of a problem needed to be interfaced. As will become evident, much of the work was "seat of the pants" research. Nevertheless, I hope that description of my experiences will be of some help to others working on analogous problems.

THE AFTER-SCHOOL CHILD CARE PROJECT

This project was reported on last year from point of view of results [4]. I will now add a comment on model and methods.

My involvement in the project was at the request of a colleague in child development, who was researching why parents chose their current child care facility. He had come to realized that economics reared its ugly head, and therefore sought the help of an economist. We set out to develop a model from what each of us knew.

The problem was how to interface child care and economic aspects of the choice facing a parent. The model we developed recognizes that there is a cost aspect to the problem, whereby parents have to assess the time and money they can afford to invest in child care; and at the same time there is a quality aspect to the problem, in terms of the impact of the program on the child's human development. Furthermore, information on all aspects of the decision had to be sought out by the parent, and the information search question has its cost and quality aspects too.

The model attempts to interface these factors in a way which allows their relative impact on parents' decisions to be assessed through survey research. To apply the model, an instrument is required which is so demanding of detail that it can only be administered efficiently by face-to-face interview methods. Therein lies my first lesson in research into quality issues. It is so demanding of data that it does not lend itself well to the collecting of large data sets within the normal research budget. As a consequence, what emerges may be more in the realms of a pilot study than a full-scale hypothesis test. As a consequence, we may be able to make assertions, but not conclusions.

QUALITY OF LIFE IN THE MIDDLE YEARS OF THE FAMILY

Once again, I became involved in a project through the invitation of a colleague - this time in family studies. The project involved the NC 164 "Stess in the Middle Years of the Family" data. The object was to assess the relative impact of economic status of families on life satisfaction.

The research has an obvious tie-in to a family and consumer economics graduate program, as it belongs to the set of on-going research in economic aspects of quality of life. As such, it interested a graduate student at Purdue, and what I'm about to say is based on her work [1].

In this area, the cost-quality interface has been subsumed in a "subjective-objective" dichotomy, which may well be false [3]. Nevertheless, we followed precedent by using standard regression analysis techniques and canonical correlation to try to investigate which of a series of variables were important to family life satisfaction - and how they grouped together. No heirarchy was placed on these variables beforehand, and data was sought on both cost and quality aspects of family experience. The object was to see if the various standard ways of analysing data would tell the same story.

The results of the study have strong ramifications for the qualitative-quantitative research issue, in that they throw suspicion on the use of regression analysis for this kind of research. An underlying assumption of regression analysis is that change is important in interrelationships among variables (that is, it studies how change in one variable affects change in another). The large amount left unexplained in her equation, and the nature of the grouping of key independent variables, lead Diamond to conclude that it may well be that lack of change is significant, and therefore that the techniques being used for analysis of data are inadequate to the task. Therein lay my second lesson in research on the quality aspects of a question - the learning of new tricks may be required of an old dog.

QUALITY OF LIFE IN RURAL FAMILIES - NC 182

At the same time as I was experimenting with NC 164 data, I became involved with the NC 182 Committee, which was also wrestling with the issue of how to interface cost and quality aspects of family life and life satisfaction. The main step forward for this group was to bring in researchers from different disciplines, who would develop survey questions which would probe both the cost and qualtity dimensions of the problem. From being involved with this procedure, I learned my third lesson in the research of quality aspects of a question: validation is a major problem, and it needs the input of people who have specialist knowledge. One cannot just jump in oneself: the danger of doing bad research is too great.

CLOSING REMARKS

I have mentioned three lessons I learned through being involved in quality dimensions of research questions. I would like to close with one more, which is perhaps the hardest of all.

To make progress in consumer and family economics research, researchers may have to to climb down from their prejudices about their own and other parent disciplines. I found out that economics does not have all the answers. But in order to get answers, I had first to convince other people that their disciplines didn't either; and second, that mine had at least some of the answers. Finally, I had to convince people of other disciplines that I recognized that they have some answers too. All of this is time-consuming and stressful, but if it produces better, more eclectic models of the family and the consumer the effort will be worthwhile.

REFERENCES

1. Diamond, R. The Relative Impact of Economic and Non-Economic Factors on Family Life Satisfaction. Masters Thesis, Purdue University, August 1987.

2. Heilbronner, R.F. "Economics Without Power", The New York Review of Books, Vol. XXXV (3), March 1988: 23-25.

3. Rudd, N. "Perceived Economic Well-Being and Household Characteristics: A Canonical Analysis", in M. Dunsing (Ed.) Proceedings of the Symposium on Perceived Economic Well-Being. Agricultural Experiment Station, University of Illinois, March 1981.

4. Widdows, R. and D. Powell, "The Relative Importance of Economic Factors in Parent's Choice of After-School Child Care". Proceedings of the 33rd Annual Conference, American Council on Consumer Interests, Denver CO, April 1987: 366-71.

APPAREL-SHOPPING PROBLEMS OF THE OLDER CONSUMER

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One of the most notable shifts in the changing demographic composition of the United States is the aging of the American public. Although research interest in the elderly population is growing, relatively little research has focused on the apparel-shopping problems of older consumers. The purpose of this exploratory study was to identify specific problems consumers aged 55 and over encounter when shopping for apparel. The findings indicate that fit is a major problem, followed by the styles available, apparel prices, the sales help and then all other problems. The results have implications for both retailers and apparel manufacturers.

INTRODUCTION

One of the most notable shifts in the changing demographic composition of the United States is the aging of the American public. The nation's median age, which is currently 31.9 years, is expected to be 36.3 by the year 2000. The retirement-age and elderly populations will continue to increase. In 1982, there were 48.9 million people ages 55 and over. This figure is estimated to increase to 54.9 million by 1995 (American Apparel Manufacturers Association 1984).

Although researchers from various fields have shown a growing interest in the elderly population, relatively little research has focused on the shopping behavior and problems of the elderly. Consumer educators/advocates who are interested in identifying and meeting the needs of the elderly in the marketplace, as well as retailers who are interested in reaching older consumers, could benefit from additional insight into this growing market. In particular, identification of specific shopping problems facing older consumers would be helpful.

REVIEW OF LITERATURE

Research on elderly shoppers has explored patronage behavior, shopping orientations, their use of information sources, and store attributes desired by this consumer segment. The research has generally been product specific, with the focus on either apparel or food shopping behavior. The elderly appear to rate all information sources lower in importance than younger age groups. Newspapers and word of mouth were found to be relatively more important sources of information for apparel than radio or television (Lumpkin and Greenberg 1982). Familiarity with, and use of three grocery shopping aids (open-code dating, nutritional labeling and unit pricing) were found to be lower relative to a national sample representing all age groups (Bearden and Mason 1979).

Although older consumers appear to shop less frequently for clothes than other age groups, they do enjoy shopping on the whole. They like to know the store personnel where they shop, although they do not perceive salespeople to be very important when selecting an apparel retailer (Lumpkin and Greenberg 1982). Price does not appear as a primary consideration when apparel shopping (Lumpkin and Greenberg 1982), although the price-quality relationship offered for clothing and the presence of sales have been identified as desirable store attributes for apparel retailers (Lumpkin, Greenberg and Goldstucker 1985).

From the past research on apparel shopping behavior, store attributes desired by older consumers have been identified, as well as other aspects of their shopping behavior such as use of information sources. However, such information does not provide insight into specific problems that older consumers face in the marketplace. It was with this in mind that the objective of this research was defined as exploring the specific problems older consumers encounter when shopping for apparel.

SAMPLE AND DATA COLLECTION

For the purposes of this study, individuals ages 55 and over were interviewed. Although elderly consumers, those over age 65, have been the primary focus of previous research, there are several reasons for using a younger age. First, retirement occurs prior to age 65 for some people, resulting in a change in lifestyle that may affect apparel needs, expenditures and shopping patterns. Those older consumers who remain employed are at a stage in the family life cycle in which their earnings are relatively high, while their expenses are relatively low (Engel and Blackwell 1982). Consequently, they represent a sub-segment of the mature market with tremendous spending potential. Finally, in some cases, 55 years is used as the eligibility age for senior citizen discounts which may be used as a retail promotional tool.

The data used in this study were collected in spring 1987 in a medium-sized midwestern town. The mall intercept technique was used to select participants in four different retail locations (Aaker and Day 1983). The retail locations included a downtown business district area, a regional mall, a secondary mall with a national mass merchandise store as the anchor, and a secondary mall with a regional discount store as the anchor. The data were collected at various times of day over a period of one week to help reduce biases that might otherwise arise (Aaker and Day 1983). The questionnaire was administered orally to each respondent.

The questionnaire consisted of open-ended questions regarding problems encountered when shopping for apparel. Additional close-ended questions were asked regarding fashion and shopping interests, media usage, store patronage and demographic characteristics.

A total of 264 questionnaires were completed. Seventeen percent were completed in the central business district, 26% at the regional mall and 57% at the secondary malls (32% at one mall and 25% at another). Table 1 contains descriptive statistics for the sample. The average respondent can be described as a white, 59-year-old female of average height and weight. She is married, living with her spouse, and their monthly household income is greater than $1,000. Although shopping and keeping up with fashion are of moderate interest to her, she has spent $100 or less on clothes in the previous three months. Her favorite time of day to shop is in the morning. Newspaper and television are the media she uses most often.

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TABLE 1. Descriptive Statistics for Selected Consumer Characteristics (n = 264)*

Variable	Frequency	Variable Definition
AGE		Age of the respondent
55-65	153	
66-70	50	
71-75	27	
76-80	18	
81 and >	7	
SEX		Sex of the respondent
Female	197	
Male	66	
INCOME		Monthly household income
<$1000 per month	68	
>$1000 per month	185	
EXPEND		Apparel expenditures for self in the past 3 months
$50 or <	63	
$51 - $100	73	
$101 - $150	49	
$151 - $200	22	
>$200	23	
WORKING		Working status of the respondent
Yes	94	
No	169	
HHSIZE		Number of people living in household
1	55	
2	173	
3 or >	35	
MARITAL		Marital status of the respondent
Married	194	
Widowed	47	
Divorced	13	
Single	9	
RACE		Race of the respondent
White	250	
Nonwhite	13	
LOCATION		Location where the respondent resides
Live in town	113	
Within 5 miles	45	
5 - 10 miles	21	
11 - 20 miles	17	
>20 miles	66	
SHOPPING		Whether the respondent enjoys clothes shopping
Yes	172	
No	90	
FASHION		Whether the respondent is interested in keeping with fashion
Yes	138	
No	124	
CASUAL		Type of store in which casual clothes are purchased
Discount store	45	
Mass merchandiser	82	
Department store	36	
Specialty store	45	
Other	42	
SEW		Whether the respondent sews or not
Yes	114	
No	149	
HEIGHT		Height of the respondent
Short	89	
Average	131	
Tall	44	
WEIGHT		Weight of the respondent
Underweight	19	
Average	184	
Overweight	61	
SHOPTIME		Respondent's preferred time to shop
Morning	133	
Afternoon	98	
Evening	23	
SHOPFREQ		How frequently the respondent shops for clothes for self
<Once a month	156	
>Once a month	106	
MEDIA**		Type of media used most often
Newspaper	136	
TV	173	
Radio	35	
Magazine	41	

* Totals for each variable may not equal 264 due to missing values.
** Total for MEDIA exceeds 264 due to multiple responses.

VARIABLE NAMES AND DEFINITIONS

In this section, the two major groups of variables used in this study are discussed. The first set of variables have been been termed "consumer response variables." These are the variables that were created based upon consumer responses to the questions regarding shopping problems. The second set of variables are termed "consumer characteristics variables." These variables represent selected demographic and psychographic characteristics of the respondent.

Consumer Response Variables

Table 2 contains the variable names and frequencies for the consumer response variables used in this study. The variable of initial interest was SHOPROB. The responses for SHOPROB were obtained by asking the question, "What are the three greatest problems you encounter when shopping for clothes?" Due to the exploratory nature of this aspect of the study, an open-ended question was used. Open-ended questions are useful when there are too many possible answers or the answers cannot be foreseen (Aaker and Day 1983). The answers given by the respondents were then classified into one of the five respective categories that are also listed in Table 2.

TABLE 2. Descriptive Statistics for the Consumer Response Variables*

Variable	Frequency	Percentage
SHOPPROB		
SIZE	140	32.3
STYLES	85	19.6
PRICES	59	13.6
SALES	57	13.1
OTHER	93	21.4
Total	434	100.0

*220 respondents actually cited at least one shopping problem. However, the total number of responses for SHOPROB exceeds 220 due to multiple responses.

The variable names for the responses to SHOPROB were SIZE, STYLES, PRICES, SALES, and OTHER.

SIZE and STYLES are the apparel-related responses to SHOPROB. SIZE represents answers regarding size or fit problems experienced when shopping for apparel. STYLES represents responses in which the styling of available clothing was identified as a problem. PRICES represents responses in which the consumer said that the price of apparel was a problem. SALES represents responses in which the consumer indicated that sales help was problematic (e.g., lack of or too pushy). OTHER represents all remaining shopping problems cited by the respondents. Table 3 contains a sample of the type of statements consumers made within each category.

TABLE 3. Examples of Selected Consumer Responses for SHOPROB

SHOPROB

- SIZE
    - Nothing fits--has to be altered
    - Finding things that fit
    - Sizes are all different
    - Length
- STYLES
    - Cater to young
    - Something for my age
    - Trend toward youthful styles
- PRICES
    - Too expensive
    - High prices
- SALES
    - Unknowledgeable sales staff
    - Pushy clerks
    - Lack of salespeople
- OTHER
    - Foreign-made clothes
    - Crowded stores
    - Sale items not properly marked

Each of the categorical response variables was coded as 1 if any one of a respondent's three responses was represented by that category, and a zero otherwise. Consequently, information is lost to the extent that more than one of the respondent's comments fell into that same category. However, due to the small number of respondents who gave more than one response of a similar nature, the results should not be adversely affected by this simplification. Additionally, it would not be possible to analyze the data preserving the actual number of responses in a given category, because the sample size within specific cells would be much too small (Aaker and Day 1983).

Consumer Characteristics Variables

The consumer characteristics selected for the analysis were those that may affect consumer responses to the categorical variables created from SHOPROB. These variables include AGE, HEIGHT, WEIGHT, SEX, INCOME, EXPEND, WORKING, SHOPPING, FASHION, SHOPFREQ, SHOPTIME, SEW, AND CASUAL. The descriptive statistics for these variables were presented in Table 1. Each of these variables is discussed below.

The age of the respondent, AGE, was calculated based on the respondent's year of birth. Age is one way to measure stage in the life cycle, which may influence factors such as tastes, apparel needs and income, which in turn may affect the nature of any apparel shopping problems cited.

The height and weight of each respondent, HEIGHT and WEIGHT, respectively, were recorded based on the observation of the interviewer. These factors may influence whether problems such as fit and style were cited by the respondents as problems they encounter when shopping for clothes.

The sex of each respondent, SEX, was recorded based on the observation of the interviewer. Men and women may provide different responses to SHOPROB, since the type of clothes each sex wears is sufficiently different to warrant their own set of problems. Also, the bodies of men and women change in different ways as they age, which in turn may affect their responses.

Information regarding INCOME was obtained by asking respondents whether their monthly income was more or less than $1,000. This information was asked in a limited way since income can be a sensitive issue, particularly among older people. Income is expected to influence the type of shopping or apparel problem cited by an individual. In particular, problems with price, value or quality are expected to be cited more frequently among those individuals with lower incomes.

Information was obtained on how much money each respondent estimated they had spent in the preceding three months on clothes, EXPEND. Expenditures on clothing may influence whether problems such as apparel quality or prices were cited as a problem.

Each respondent was asked whether or not they were employed, WORKING. The work status of a person can influence not only their income and expenditures on clothing but the type of apparel they need and the amount of time they have available for shopping. Consequently, WORKING may be related to problems with styles or quality available, as well as store specific problems such as store hours.

Each respondent was asked whether or not they enjoyed shopping for clothes, SHOPPING. The consumer's attitude towards shopping could influence the type of response they give regarding shopping problems.

Each respondent was asked whether they were interested in keeping up with fashion, FASHION. The respondent's attitude regarding fashion could influence factors such as whether or not they believe the styles available today are a problem.

Information was obtained on how often the respondent usually shops for clothing, SHOPFREQ, as well as the time of day during which they prefer to shop, SHOPTIME. These variables may affect the type of shopping problem encountered, such as out-of-stock conditions or crowded stores.

Participants were asked whether or not they sew, SEW. A person with sewing skills can be expected to be better able to assess the quality of clothing, which may influence whether they cite an apparel-related problem as one they encounter when shopping.

Each respondent was asked to indicate the store in which they generally purchase their casual clothes (CASUAL). Each store was then classified as a discount store (e.g., Wal-Mart), mass merchandiser (e.g., Sears, J. C. Penney), department store (e.g., Dillards) or a specialty store. The store type in which they generally purchase clothing could influence whether or not they cite problems with prices, store personnel or the quality or styling of apparel.

Data Analysis

Each of the responses to the open-ended shopping problem questions was classified into one of five categories. Due to the nature of the data which resulted from this classification scheme, chi-square analysis was appropriate for analyzing the results. The chi-square statistic can be used to indicate whether each consumer response variable was significantly related to the set of selected consumer characteristics which were also categorical in nature. Before discussing the results from the chi-square analysis, the distribution of responses to SHOPROB is discussed.

The frequency distribution for SHOPROB was presented in Table 2. The distribution for SHOPROB indicates that the size or fit of clothing, SIZE, was the most frequently encountered problem when shopping for clothes, followed by problems related to available styles, STYLES, and "other" problems, OTHER. Thirty-two and one-third percent of the responses were fit problems, while 19.6% were styling problems. Problems related to the price of apparel, PRICES, and the sales personnel, SALES, comprised 13.6% and 13.1% of the total responses, respectively.

Table 4 contains the significant results from the chi-square analysis. The chi-square statistic simply indicates whether or not two variables are significantly related. It does not, however, tell how the variables are related. To gain some understanding of how the variables are related, it is necessary to examine how the responses are distributed within a specific contingency table. Thus, Table 4 also contains information regarding the percent of the respondents with a given characteristic who cited a particular problem. For example, in examining the relationship between SIZE and HEIGHT, 75% of the respondents who were identified as being short cited size as a problem, while 64% of the respondents who were identified as being of average height identified size as a problem.

TABLE 4. Chi-Square Values and Corresponding Percent Distribution for Consumer Response and Characteristic Variables

Variables	Percentage	Chi-Square Value
SIZE		
Height		7.73*
Short	75	
Average	56	
Tall	64	
Weight		8.46*
Under	50	
Average	59	
Heavy	80	
Sex		6.13*
Female	68	
Male	49	
Working		3.64**
Yes	55	
No	68	
Casual		9.75*
Specialty	76	
Discount	74	
Department	70	
Mass merch	53	
Other	53	
STYLES		
Casual		8.3*
Mass merch	50	
Specialty	46	
Department	33	
Other	31	
Discount	26	
PRICES		
Expend		7.9**
<$50	31	
$50 - 100	30	
$101-150	36	
$151 - 200	10	
>$200	17	
Casual		8.5**
Mass merch	36	
Discount	32	
Department	30	
Specialty	22	
Other	11	
Shopping		4.89*
Enjoy	22	
Don't enjoy	36	
Shopfreq		2.8**
<once a month	31	
>once a month	21	
Sew		2.7**
Yes	33	
No	27	
Weight		11.94*
Under	50	
Average	20	
Over	39	
SALES		
Income		4.82*
<	15	
>	30	
Working		3.84*
Yes	33	
No	21	

TABLE 4, continued

Variables	Percentage	Chi-Square Value
SALES, continued		
Height		7.98*
Short	16	
Average	29	
Tall	39	
OTHER		
Weight		7.96*
Under	31	
Average	49	
Over	28	
Height		6.68*
Short	31	
Average	46	
Tall	55	

* = Significant at α = .05.
** = Significant at α = .10.

The consumer response variables which were significantly related to SIZE were HEIGHT, WEIGHT, SEX, WORKING, and CASUAL. CASUAL is also significantly related to STYLES. Each of these findings will be discussed in turn.

HEIGHT and WEIGHT were significantly related to SIZE. As seen in Table 4, the percent distribution suggests that as the height of a person moves away from average, the more likely size or fit is to be considered a problem. With respect to weight, Table 4 indicates that as weight increases, fit is more likely to be cited as a problem.

The sex of the respondent was also found to be related to SIZE. A higher percentage of females found size to be a problem than did men. However, 55% of the men did cite fit as a problem.

The work status of the older consumer was found to influence SIZE. Sixty-eight percent of the non-workers found size to be a problem, while 55% of the non-workers cited fit as a problem that they faced when shopping for clothes.

The type of store in which an individual generally bought their casual clothing, CASUAL, was significantly related to SIZE. A higher percentage of those respondents who shop at department, discount or specialty stores cited fit as a problem compared to those who generally shopped at mass merchandisers or "other" stores.

CASUAL was also found to be significantly related to STYLES. A higher percentage of consumers who shopped at specialty stores or mass merchandisers indicated that the styling of clothes was a problem. This may be a reflection of either the type of clothes carried in the store or the type of consumer who patronizes a particular type of store (i.e., degree of fashion orientation). Of those consumers who said they were interested in keeping up with fashion, 25% shopped at mass merchandisers, 25% shopped at specialty stores, and the remaining 50% were fairly evenly divided between the discount, department and other stores.

The chi-square analysis indicated that problems with the price of apparel, PRICES, were associated with EXPEND, CASUAL, SHOPPING, SHOPFREQ, SEW and WEIGHT. A higher percentage of respondents who had spent $150 or less on apparel for themselves in the past 3 months, EXPEND, stated that the price of apparel was a problem. A higher percentage of those respondents who shop at mass merchandisers, discount stores or department stores cited PRICE as a problem. It is likely that PRICE, EXPEND and CASUAL are related to the influence of INCOME, although a significant relationship was not found between PRICE and INCOME.

A higher percentage of respondents who do not enjoy shopping, SHOPPING, and who shop less frequently, SHOPFREQ, considered PRICE to be a problem.

Those respondents who indicated that they sew, SEW, were more likely to consider PRICE to be a problem than respondents who do not sew. This may reflect the fact that traditionally sewers have been able to make clothes more cheaply than they could buy them.

Fifty percent of the respondents who were classified as being underweight and 39% of those who were overweight indicated that price was a problem. This may be related to the need for these consumers to buy specialized sizes which may carry a relatively higher price, or that may be discounted less frequently than standard-sized merchandise.

Problems with sales help, SALES, were found to be associated with INCOME, WORKING and HEIGHT.

A higher percentage (30%) of those respondents with a monthly income over $1000 cited a problem with sales help. Approximately the same percent of respondents who worked (33%) identified the sales help as problematic when shopping for apparel.

Thirty-nine percent of the tall respondents in the sample indicated that they considered sales help to be a problem. Twenty-nine percent of the average-height respondents found sales help to be a problem.

OTHER was found to be related to WEIGHT and HEIGHT. However, given the variety of statements that were classified in the OTHER category, this variable does not seem to be very useful.

DISCUSSION

This exploratory research investigated problems experienced by older consumers when shopping for apparel. Based on the results of this study, it appears that the fit and styling of apparel is not meeting the needs of many older consumers. Those individuals who are not of average height or weight particularly find fit to be a problem. However, fit problems do not evade the average-size consumers. Thirty-one percent of the respondents who are of average height and 38% of those who are of average weight cited fit as a problem they encounter when shopping for clothes. Clearly, the size and fit of apparel pose a problem for a substantial number of older consumers.

Besides fit, styling is also a significant problem faced by older consumers. In our youth-oriented society, it is easy to direct design efforts towards satisfying the needs of the younger consumer. Design features such as long sleeves for summer wear are generally given little consideration. Previous research on desired store attributes indicated that sizes and styles appropriate for the elderly were considered important (Lumpkin, Greenberg and Goldstucker 1985). Consumer educators/advocates working on behalf of older consumers might bring these apparel-related problems to the attention of apparel manufacturers. As the elderly market continues to grow, apparel manufacturers may become more responsive to both their fit and styling needs.

Although apparel-related problems appear to be the most prominent shopping problems faced by older consumers, problems related to the attributes of apparel stores were also cited. The price of merchandise and sales personnel were identified by a substantial number of respondents as specific problems they face when shopping for apparel. The elderly consumer's desire for both value and sales have been previously cited as desirable store attributes (Lumpkin, Greenberg and Goldstucker 1985). Although sales personnel have not been previously cited as a specific problem, earlier research has indicated that elderly consumers, particularly those over the age of 75, do like to have personal interaction with the sales help (Lumpkin, Greenberg and Goldstucker 1985).

The findings of this study, along with previous studies, do have implications for retailers. First, retailers might consider the benefits of a senior citizen discount or other promotional activity that provides lower prices specifically to the older consumer. Second, retailers might provide training to sensitize their sales associates to the special needs of older consumers. Additionally, retailers might consider the viability of employing sales staff who are middle-aged or older, particularly during the time of day when the elderly prefer to shop.

With respect to future research, benefits could be gained by examining the types of comments consumers made within each of the five categories analyzed in this study. Such information would make consumer educators/advocates, apparel manufacturers and retailers aware of specific changes that could be made to better satisfy the needs of the older consumer. Additional research in other markets would also help support (or refute) the findings of this study.

REFERENCES

Aaker, David A. and George S. Day (1983), Marketing Research, New York: John Wiley and Sons.

American Apparel Manufacturing Association (1984), Apparel Manufacturing Strategies, Arlington, VA.

Bearden, William O., and J. Barry Mason (1979), "Elderly Use of In-Store Information Sources and Dimensions of Product Satisfaction/Dissatisfaction," Journal of Retailing, 55 (No. 1; Spring): 79-91.

Engel, James F. and Roger D. Blackwell (1982), Consumer Behavior, New York: Dryden Press.

Lumpkin, James A. and Barnett A. Greenberg (1982), "Apparel-Shopping Patterns of the Elderly Consumer," Journal of Retailing, 58 (No. 4; Winter): 68-69.

Lumpkin, James A., Barnett A. Greenberg, and Jac L. Goldstucker (1985), "Marketplace Needs of the Elderly: Determinant Attributes and Store Choice," Journal of Retailing, 61 (No. 2; Summer): 75-105.

A CONSUMER SEGMENTATION ANALYSIS OF GROCERY COUPON USERS: PUBLIC POLICY IMPLICATIONS

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Although grocery coupons are one of the fundamental ways by which marketing firms communicate with consumers, little research has dwelt on the public policy dimensions of consumer attitudes and usage of coupons. Based on an extensive survey this paper segments consumers into four basic groups and develops the implications for public policy of the attitudes and behavior of each. Indications are that consumers with low incomes and modest education may be disadvantaged.

Grocery coupons have become a fundamental means by which marketing firms attempt to communicate with consumers and to influence their market place choices. In recent years couponing has experienced extraordinary growth: the number of manufacturer coupons distributed grew from 16 billion in 1970 to 202.6 billion in 1986 (MC3 1986).

Further, the total number of coupons redeemed by consumers has increased from 3.81 billion coupons in 1980 to 7.32 billion in 1986. Although the percentage of total coupons actually redeemed has declined somewhat during this period, number of coupons redeemed per capita, increased by nearly 200% (Table 1). In 1986 the value of coupons redeemed, or stated differently, the resulting reduction in consumers' grocery bills, was $2.75 billion.

TABLE 1. Coupon Distribution, Redemptions, Value and Rates, 1980-86

	1980	1982	1984	1986
Distribution (billions)	90.6	169.5	163.2	202.6
Redemptions (billions)	3.81	4.48	6.25	7.32
Redemption value (billion $)	.78	1.20	2.06	2.75
Redemption Rate (percent)	4.2	3.7	3.8	3.6
Redemption Rate per capita (coupons)	16.7	19.2	26.4	30.3

Source: Manufacturers Coupon Control Center (MC3), "A Chronology of Couponing", 1986. Estimates of the Population of the United States, by Age, Sex, and Race: 1980 to 1986, Population Estimates and Projections, Current Population Reports, Bureau of the Census, U.S. Department of Commerce, Series P-25, No. 1000, February 1987.

Despite their growth and economic importance, coupon research has left important gaps with respect to consumer perspectives and public policy. Uhl (1982) criticizes coupons as a violation of consumer sovereignty and an inefficient promotional device producing "dead-weight" welfare losses. Antil (1985), on the other hand, defends them, attempting to demonstrate that most of Uhl's assertions are unjustified. However, neither of their provocative positions is based on empirical data. Indeed, Antil concludes his article by calling the need to investigate consumer attitudes and behavior with respect to coupons "a high priority research issue." Other strains of literature, although generally better empirically grounded, examine coupons from either a managerial standpoint (eg, Bawa and Shoemaker 1987) or a theoretical perspective (eg, Blattberg et al 1978; Narasimhan 1984). Thus, little in this valuable past research examines the linkage between consumer motivations and public policy. The overarching goal of this study was to measure consumers' attitudes and usage of grocery coupons to assist consumer educators and public policy makers to make more informed decisions and, thus, improve both consumer decision making and grocery industry performance.

METHODOLOGY

The study data were collected from a cluster sample of 2,000 New York State households, randomly selected from a set of New York State telephone directories. A six-page mail questionnaire, with a $1.00 incentive enclosed, was sent to each household, incorporating issues identified from past research, trade literature, and prior industry interviews. The questionnaire design drew heavily from the "Dillman Method;" that is, considerable attention was paid to each small detail -- booklet format, question symmetry, personal signatures, graphic design. A response rate of 82.3 percent was achieved after two mailings and postcard follow up.

EMPIRICAL FINDINGS

Over 92 percent of the households in this survey report using coupons at least occasionally. This is higher than most past studies (Nielsen 1985; Mooty 1983; Gallo, Hamm and Zeller 1982) which all report coupon use rates between 75-80 percent. Given the large and representative nature of the data set in this study, however, it appears likely that this difference reflects real increased consumer acceptance and usage of coupons.

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The typical coupon user as illustrated in these data is likely to redeem coupons on every shopping trip and use coupons even when the shopping environment is "less than ideal" (Table 2).

TABLE 2. Selected Coupon Behavior (N=1360)

Question:	Percent Response:				
(a) Coupon redemption frequency					
(1) every shopping trip	56.1				
(2) every other shopping trip	19.0				
(3) one out of five trips	15.9				
(4) one out of ten trips	4.8				
(5) fewer than one out of ten trips	4.2				
(b) Coupons used if:	A	F	S	R	N[a]
(1) consumer is in a hurry	27.7	17.1	29.2	17.2	8.8
(2) store is busy	56.9	17.9	18.9	4.1	2.3
(3) kids are around	43.9	13.6	14.3	6.2	21.9
(4) customer is buying just a few items	39.3	20.3	29.1	9.2	2.1

[a] Denotes response: Always-A, Frequently-F, Sometimes-S, Rarely-R, and Never-N.

Consumer attitudes toward coupons reveal that most consumers (93 percent) believe that coupons allow them to buy more expensive brands. Further, most coupon users tend to disagree that coupons lead to indiscriminate product purchases (65 percent of respondents say that coupons do not induce them to buy what they don't need), but, importantly, a majority (85 percent) believe that coupons affect their brand decisions.

SEGMENTATION ANALYSIS

Three separate statistical techniques were employed to segment respondents in this survey into similar groups: chi-square analysis, factor analysis, and cluster analysis. Since results of the three techniques reinforced one another, results of the chi-square analyses only are reported here. For elaboration of results of the other approaches, see Meloy (1988).

The chi-square analysis identified four overlapping consumer segments. They are classified as follows: coupon user versus non-user; highly committed versus uncommitted coupon user; brand-loyal versus brand-switcher; and likely coupon misredeemer versus proper redeemer. The four segments were derived from the statistical significance of 17 variables cross tabulated with the coupon use and are described below.

TABLE 3. Variables Significantly Associated With Coupon Usage

Variable	Chi-square Value	Variable	Chi-Square Value
Household Size	119.07	Amount Spent Shopping	35.73
Time Spent Shopping	96.13	Years Shopping	24.76
Marital Status	73.67	Age	23.83
Expirations Okay	64.31	No coupons - Price Down	22.22
Coupons for Perishables	59.93	Distance to Store	18.20
Booklet Format	59.30	Income	18.19
Sex	49.27	More No-Clip	16.72
Number of Children	40.74	Shop With Children	15.30
		How Often Shop	13.53

Coupon User Versus Non-User

In descending order, the most significant variables associated with coupon use were household size, time spent in the store shopping, and marital status of the respondent. Data from this research indicated that coupon users are likely to live in households of more than three persons, spend more than half an hour shopping (91 percent of those shopping for more than one half hour use coupons), and be married (96 percent of all married respondents use coupons). Other significant demographic descriptions of coupon users include a likelihood to be between 32 and 59 years of age (95 percent of all respondents in this age range use coupons), have an annual household income between $20,000 and $50,000 (94 percent of respondents with incomes in this range use coupons), and shop with their children.

Conversely, the coupon non-user is likely to live in a smaller household, spend less than half an hour shopping each trip and be single. In addition, the non-user is more likely to be male, less than 32 years old or older than 72, have no children, and have annual household income at a distance from the median (eg, less than $20,000 or more than $50,000 annually). Coupon non-users appear to view grocery shopping as a task done on the spur of the moment (they tend to shop frequently for amounts less than $20) or only when absolutely necessary. Meal planning may not be a high priority; and because they are more likely to live alone and have higher incomes, eating away from home may be more prevalent.

Highly Committed Vs. Uncommitted Coupon User

The highly committed coupon user is likely to use coupons frequently, of low face value, and even when shopping conditions are less than ideal. The highly committed coupon user is likely to be female (60 percent of females are highly committed to coupon use), have only a high school education (approximately 55 percent of the most committed coupon users have not gone beyond high school), be older (75 percent of respondents over 45 are committed to coupon use), earn between $10,000 and $40,000 annually (60 percent of respondents in this income range are committed to coupon use), and have a "family-oriented" female head of household (ie, non-working status or not "committed" to work).

On the other hand, the uncommitted coupon user uses coupons less frequently, and tends to place a relatively high value on time. The uncommitted coupon user is more likely to be male, younger, single, live in a small household, have a college education, have no children, and have an income above $10,000. It is likely that the higher levels of education and incomes of both the non-user and the uncommitted segments result in a higher opportunity cost to coupon use.

It should be noted that the actual work status of the female head of the household is a less important determinant of coupon use than her orientation toward work and the family. The two categories of "career-oriented women," those already working in careers and those who plan to work, show similar coupon clipping and usage tendencies. However, working women who feel their work is "just a job" display more similar attitudes to full-time housewives. Women who work in "just a job" may be forced to do so out of economic necessity, but, if given the opportunity, would rather be full time, traditional housewives. Likewise, women who are currently housewives who plan to work may be temporarily disabled, unemployed, or staying at home to care for small children. Given the opportunity, this group might eagerly reenter the work force to pursue a career. Thus, this study suggests that a female's orientation towards career and family, not work status alone, is a key determinant of coupon use.

Brand Loyal Vs. Brand Switcher

Brand switchers are defined here as respondents who are easily influenced by coupons to switch brands. Chief traits associated with the brand switching segment include: living in larger households (only 10 percent of large households are brand loyal), having a college education (only 5 percent of college educated respondents are brand loyal), relatively high incomes (only 4 percent of respondents making more than $75,000 annually are brand loyal), youth (only 5 percent of respondents less than 32 years old are brand loyal), and being single (only 15 percent of single consumers are brand loyal).

Conversely, brand loyalty appears to be associated with: households with fewer than 2 persons, a high school education, being older, married, low income, and no children. This description of the brand loyal shopper corresponds in many ways to a common perception of today's elderly shopper. Whether brand loyalty exhibited by today's senior consumer will continue or diminish as younger consumers age is a vital question for thos marketers and policy makers who seek to understand an increasingly important market segment.

Coupon Misredeemer Vs. Proper Redeemer

A coupon misredeemer is defined here as someone who pays little attention to coupon specifications when redeeming coupons. Simply put, the likely misredeemer is more likely to be male, college educated, young, single and have a higher income than those who pay stricter attention to coupon specifications. The proper redeemer is more likely to be female, live in a small household, have a high school education, be older, widowed, have lower income, and have a family oriented female head of household.

One hypothesis explaining the statistical grouping of these segments is that the likely misredeemer may have a better understanding of the coupon industry and promotions in general, and consequently is "opportunistic." That is, this shopper may recognize the very small probability that any attempt at coupon misredemption will ever be revealed. That is because retailers, either by explicit strategy or laxity of enforcement, generally encourage cashiers not to confront suspected coupon misredeemers. Indeed, the retailer has little incentive to do otherwise since most often he simply passes the misredeemed coupon (and cost) along to the manufacturer.

PUBLIC POLICY IMPLICATIONS

Potential Costs and Benefits

Critics of promotional couponing have argued that the societal costs may outweigh the benefits (Uhl 1982; Gallo, Hamm and Zeller 1982). Costs here are of two main types: costs to food industry firms and costs to consumers. Costs to the food industry, essentially manufacturers, include production, distribution, promotion, redemption costs (which indirectly encompass retail related costs), and misredemption costs. Costs to consumers include the opportunity cost associated with clipping and using coupons and the higher food prices that are the direct result of manufacturers ultimately passing on promotional costs to consumers.

One may argue that a final set of costs are those borne by consumers who do not use coupons. Of course, both groups also gain certain benefits from coupons. Benefits to manufacturers, for example, include (at least theoretically) increased sales, market share, economies of scale and exposure associated with effective coupon promotions. Benefits to consumers are both the direct savings resulting from lower food expenditures for couponed items and the indirect benefits of being able to upgrade purchases through the use of coupons.

These costs and benefits are not easily quantified. Public data are generally not available. Moreover, manufacturers have been reluctant to disclose information pertaining to their coupon production and distribution expenditures. Thus, the net systemwide welfare impacts are not clear. However, when the publicly known costs (i.e., redemption and misredemption only) are subtracted from known benefits (reductions in consumer grocery bills for couponed items) a systemwide surplus remains of approximately $176 million. Since it appears unlikely that total coupon manufacturing and distribution costs are less than $176 million, in an approximate sense, coupons appear to "cost more than they are worth." However, benefits in the form of additional manufacturer sales that may be induced by coupons coupled with the presumed greater utility associated with upgrading of consumer purchases may tip the welfare scales in a net positive direction. Much more information is required, however, before a rigorous conclusion may be drawn.

Non-User Subsidization of Coupons?

Coupon elimination has been periodically suggested by public policy makers due to an alleged subsidy from one consumer group by another. There has been concern that coupon non-users, generally shown in this research to have lower incomes than users, subsidize the grocery bills of coupon users. The argument is that a non-user who purchases the same item as a coupon user pays a price which has been set by the manufacturer and retailer to cover all costs, including coupon promotional expenses, and profit. However, only the coupon user enjoys a reduction equal to the face value of the coupon. Thus, non-users pay a higher price and thereby bear more of the manufacturers' promotional (eg, coupon-related) expenses than the user. In effect then, non-users subsidize users' grocery purchases. Of course, one might argue that because the coupon user invests time and effort in the redemption process, the resulting lower grocery expenditure is "earned" income. However, a counter-argument is that the non-user is involuntarily penalized if he or she does not wish to take the time (see Uhl).

However, the controversy may no longer be relevant. According to this study an increasingly small minority of all households are strictly non coupon users (8 percent). Thus the overall cost burden of couponing may now be more equally shared by all consumers relative to the initial years of couponing when a more substantial proportion of consumers were non-users. Moreover, this research shows that the non-user is likely to engage in less shopping planning and, sometimes, to have very high incomes (over $50,000 per year), undoubtedly a reason for some policy makers to be less inclined to initiate measures to "protect" such a non-disadvantaged minority. However, the policy prescription may differ for other coupon segments. For example, a stronger case may be made that grocery coupons discriminate against small households and the elderly through sizing requirements (eg, more coupons available for larger size packages) and against the low income shopper through lack of coupon access. Specifically, coupons are generally less available to lower income households, not likely to be on targeted mailing lists and generally not frequent magazine subscribers. Results of the segmentation analysis indicate that coupon use is lowest among these consumer groups. Thus, although further empirical documentation is needed, it appears likely that these elderly and low income groups subsidize the grocery bills of younger, more affluent coupon users.

Coupons Affect Brand Choice Differentially

Less educated shoppers are likely to be highly committed to coupons. They use coupons more frequently than more educated shoppers and search more aggressively for couponed new products. While these factors suggest that this group thus benefits from coupon use, it is unclear on what basis less educated shoppers make coupon use decisions and how brand selection is subsequently affected. Past studies have indicated that coupon involvement derives from "smart shopper" bias (Schindler 1986). This desire for smart shopper feelings may cause consumers to use coupons for products not strictly matching their needs, essentially "sub-optimal" purchases. The effects of this tendency may be felt most severely on the least educated.

Among the demographic segments in this study, low income households were found to be the most brand conscious. Yet these are likely to be the very consumers least able to afford national brand items all of the time. Brand loyal shoppers were also the least educated. Brand loyalty, although sometimes a wise risk-averse strategy under conditions of incomplete information, is often more a result of habit than of rational decision making. Although most policy thrusts encourage rational decisions, it appears from these results that rational shopping decisions are becoming more difficult for certain groups of consumers as coupons add to the complexity of grocery shopping.

Coupon Misredemption

This research indicates that coupon misredemption is viewed as more acceptable behavior among highly educated, younger, and higher income shoppers. These shoppers may have a better, or opportunistic, understanding of the redemption process in general, specifically the unlikely possibility of recrimination, and thus, have fewer qualms about redeeming coupons not conforming to correct size or date restrictions. Policy makers might consider simply eliminating all coupon size and date restrictions rather than have lower income, older and less educated consumers expend the necessary time and effort to properly redeem coupons when their higher income and better educated counterparts apparently do not.

While the net welfare impact of the coupon industry on society is complex and difficult to evaluate, this study clearly indicates a number of areas where modification of coupon programs is likely to improve the performance of the grocery coupon system. Marketers should strengthen the positive factors of their couponing programs while working closely with policy makers and consumers to mitigate the negative factors.

REFERENCES

"Coupon Leading Consumer Promotions." (1987) Grocery Marketing, April: 1.

"Coupon Use Low Among Young, Working Women." (1987) Marketing News, 20 April: 24.

"One Coupon Out of Three is Misredeemed: Nielsen." (1984) Supermarket News, 27 February: 1.

Antil, J.H. (1985) "Couponing as a Promotional Tool: Consumers Do Benefit." The Journal of Consumer Affairs, Vol. 19, No. 2, Winter, p. 316.

Bawa, Kapil and W. Shoemaker. (1987) "The Coupon-Prone Consumer: Some Findings Based on Purchase Behavior Across Product Classes." Journal of Marketing, Vol. 51, October, p. 99.

Blattberg, Robert C., Thomas Buesing, Peter Peacock, and Subrata K. Sen. (1978) "Identifying the Deal Prone Segment." Journal of Marketing Research, Vol. 15, May, p. 369-77.

Dodson, J.A., A.M. Tybout, and B. Sternthal. (1978) "Impact of Deals and Deal Retraction on Brand Switching." Journal of Marketing Research, Vol. 15, February, p. 72.

Everitt, Brian. (1980) Cluster Analysis. London: Hienemann Educational Books. Ltd.

Gallo, Anthony E., Larry Hamm, and James A. Zeller. (1982) Couponing's Growth in Food Marketing. Washington, DC: U.S. Department of Agriculture, Economic Research Service, Agricultural Economics Report Number 486, June.

Manufacturers Coupon Control Center. (1986a) "A Chronology of Couponing." Wilton, Connecticut.

_____. (1986b) "Bringing Customer Focus to Coupon Redemption." MC3 Reporter. Wilton: Manufacturers Coupon Control Center, No. 1.

_____. (1986c) "Coupon Distribution and Redemption Patterns." Wilton, Connecticut.

Meloy, Margaret G. (1988) "A Segmentation Analysis of Consumer Attitudes and Usage of Grocery Coupons." Unpublished master's thesis, Department of Agricultural Economics, Cornell University, May.

Mooty, Charlene S. (1983) "Use of Food Coupons and Cash Refund Offers by Arkansas Households." Fayetteville, Arkansas: University of Arkansas Agricultural Experiment Station Bulletin 867, June.

Narashimham, C. (1984) "A Price Discrimination Theory of Coupons." Marketing Science. Vol. 3, Spring, p. 128-47.

Nielsen Clearing House. (1981) "Couponing Distribution and Redemption Patterns by Product Group." NCH Reporter. Northbrook: A.C. Nielsen Company, No. 2.

_____. (1985) "What Consumers Think of Coupons: A Study of Consumer Actions and Reactions." Northbrook: A.C. Nielsen Company.

Schindler, Robert M. (1986) Psychological Mechanisms of the Effects of Cents-Off Coupons. Chicago: University of Chicago, Center for Research in Marketing, Graduate School of Business.

Uhl, J.N. (1987) "Cents-Off Coupons: Boon or Boondoggle for Consumers?" The Journal of Consumer Affairs, Vol. 16, Summer, p. 161.

United States Bureau of Census, Department of Commerce. (1982) 1980 Census of the Population: Characteristics of the Population of New York. Washington, DC.

CONSISTENCY IN THE QUALITY OF PRODUCTS OF FOURTEEN MAJOR MANUFACTURERS, 1975-1984

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This study replicated procedures used by Morris to examine the consistency in the quality of products marketed by 14 major manufacturers and tested by *Consumer Reports* (*CR*) from 1975 to 1984. The results of *CR* tests of 2117 models were analyzed using three different methods. Each method produced a single numerical quality score to summarize the overall quality ratings of all models marketed by each firm. Quality scores were also calculated by firm for three specific product classes. In addition, multiple-model tests were examined to determine the consistency in the quality rankings and corresponding prices of models marketed by the 14 selected manufacturers. Year-to-year variations in both overall quality scores and scores for individual product classes were the rule rather than the exception. Also, as the number of models marketed by a firm increased, the consistency in price-quality relationships decreased. Over one-half of the price-quality relationships in two-model tests were completely orderly compared to seven percent of the tests containing four or more models.

INTRODUCTION

Consumers face the problem of choosing an appropriate combination of time and money to purchase the desired quantity and quality of goods. To simplify decision-making, individuals may use certain strategies or rules. Maynes (1976) considered the validity of four simple rules consumers might substitute for information in purchasing durable goods. The validity of one of these rules, "Once excellent, always excellent," was the research question of this study.

In a 1971 article, Morris (1971b) asked, "Do firms have any general tendency toward excellence or toward inferiority in the various models they market year after year? Are some firms regularly and significantly superior to other concerns with which they compete?" To address the research questions, Morris examined the quality ratings of all models marketed by each of 18 firms and tested by *CR* from 1960 to 1969. Morris devised three mathematical procedures, each of which assigned a single quality score, to summarize the overall quality ranking of each firm.

The current research replicates Morris' study using *CR* data for 1975 to 1984. The objectives were to:

1. use Morris' procedures to investigate the overall quality rankings of 14 firms using *CR* test data for 1975 through 1984,
2. examine the consistency or variability from year to year in the quality scores of the 14 companies,
3. compare the companies' quality scores for three product classes to the mean overall quality scores for those firms, and
4. examine the consistency in quality rankings and prices in multi-model tests.

METHOD

Sample Selection

Fourteen manufacturers were selected for the current study. Firms chosen were those with widespread brand name recognition; furthermore, each was represented by at least one model in each of the ten years of *CR* product tests examined. Eight of the manufacturers in Morris' study were excluded, all ones not represented in each year of the 1975 to 1984 *CR* tests. Two firms (Panasonic and Radio Shack) included in the current study were not in Morris' sample.

The 14 companies selected represented major American manufacturers such as General Electric and Whirlpool, mail order houses (Sears, Penney, and Ward) and other firms selling major and minor appliances and other durables. Once a seller was chosen, data on relative quality ratings were collected for every model marketed by that seller and tested by *CR* between 1975 and 1984. The total number of models included for each firm varied greatly, from 23 for Magnavox to 712 for Sears.

Calculation of Quality Scores

Morris' procedures were followed for the current research. However, before outlining them, a brief review of how Consumers Union (CU) presents test results may be useful.

CU's quality ratings of products are usually rankings with models listed from best to worst quality. Frequently--in about 46 percent of the product tests analyzed in this research--each model has a separate quality rating. Alternatively, quality rankings may be presented with one or more groupings of models judged to be of essentially equal quality. When that is the case, there are fewer quality ranks than there are models.

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Occasionally, numerical quality scores may be assigned to each model. More often, the degree of quality difference between models is not known except when models are of equal or nearly equal quality.

Policies adopted by Morris (1971b, pp. 121-122) were also used in this research to cope with problems in assigning quality rankings. Product tests which lacked clarity were omitted. In the current research, four tests were omitted because the number of rating levels was unclear. Tests in which all models were judged to be of equal quality (41 tests) were also excluded.

When more than one model from a firm was represented in a test, each model was rated separately and included without averaging. Additionally, if CU identified a firm as the manufacturer of a model, that model was included regardless of the brand name used. For example, Kenmore models were attributed to Sears.

The average number of models per test in this research was 15.7 and the average number of rating levels (lower because of ties) was 11.7. Table 1 provides a frequency distribution for both the number of models and the number of rating levels in the 536 tests covered in this study. Two to five rating levels were most common (found in 144 tests); 11 to 15 models (in 157 tests) were most frequently tested.

TABLE 1. Frequency Distribution of Number of Models and Number of Rating Levels in 536 CU Product Tests

Number	Models	Rating Levels
2-5	45	144
6-10	105	127
11-15	157	125
16-20	95	71
21-25	69	36
25-30	27	5
Over 30	37	28
Average	15.7	11.7

The three methods developed by Morris (1971a, pp. 15-18; 1971b, pp. 123-129) were also used in this research to assign quality scores summarizing the overall quality ranking of a firm's models. Each method is described below.

Method 1. Method 1 scores were calculated as the rank of a model divided by the total number of rating levels, with the result converted to percent to allow comparison to other tests. The example (1971b, p. 123) given in Table 2 will clarify the explanation. A hypothetical CU test is shown with 14 models and 10 rating levels. The first two models are individually ranked, followed by three models of equal quality. Next are five ranked models and last are two pairs of low-rated ties. Method 1 assigns a score of 100 to the lowest-rated model. In the example shown in Table 2, the top-rated model would then be assigned a score of 1/10 or 10 percent.

TABLE 2. Hypothetical CU Test Results

		Score	
Model	Rating Level	Original	Percentage
1	1	1/10	10%
2	2	2/10	20
3	3	3/10	30
4 tied	3	3/10	30
5	3	3/10	30
6	4	4/10	40
7	5	5/10	50
8	6	6/10	60
9	7	7/10	70
10	8	8/10	80
11 tied	9	9/10	90
12	9	9/10	90
13 tied	10	10/10	100
14	10	10/10	100

Since 100 percent was assigned to the lowest quality ranking, a high quality ranking resulted in a low quality score. Although the top-rated model could have easily been scored as 100 percent, Morris (1971a, p. 16; 1971b, pp. 124-125) cited several valid reasons for not using this approach. Specifically, she anticipated that scoring quality in a positive fashion (with the top-rated model assigned a score of 100) would result in very low scores that might raise unnecessary concerns. Also, misconceptions might easily result if, for example, a score of 70 to 80 were associated with a "C" grade, an implication that is not warranted.

As Morris (1971b, pp. 125-127) notes, however, Method 1 also has drawbacks. A firm rated first in a test with ten quality levels received a score of 1/10 or 10 percent; one rated second earned a score of 2/10 or 20 percent. The first firm's product was not necessarily twice as good as the second one's, yet the scoring system might suggest this is true. Since CU generally does not indicate the degree of quality differences between rated models, all "spaces" between models were of necessity treated as equal. The reader should be cautioned to remember that due to this deficiency the scores indicate only that one product was ranked higher than another and do not provide any information on the absolute performance level of products.

Another problem arose when the number of models represented in a test was small. For example, in the 32 tests with only two quality levels, the top-rated firms earned scores of 1/2 or 50 percent. Yet, if a firm rated first in a test with 20 quality levels, its score was 1/20 or 5 percent. As Morris (1971b, pp. 125-127) cautions, if all tests contained 100 models with each separately rated, the percentage method of scoring would be flawless. However, the highest number of ranks found in any test from 1975 to 1984 was 41 and the highest number of models was 47. Since the average number of rating levels (11.7) and the average number of models tested (15.7) were fairly similar, it would appear that many scores were finely delineated. Nevertheless, to overcome any bias that may have occurred, two other methods of scoring were used.

Method 2. Method 2 involved summarizing the percent of each firm's models which ranked above average in rating levels. To clarify, the definition of "above average" for selected ranks is presented below:

Number of rating levels	Ratings "above average"
2 levels	1st rating
3 levels	1st rating only (2nd is average)
4 levels	1st and 2nd ratings
6 levels	1st, 2nd, and 3rd ratings

For each product test, the number of models above and below average were counted. Results were then summed across all tests for each firm and a mean percentage calculated.

Method 3. Method 3 calculates what percent of each concern's models were in the top quartile of the ratings. Of necessity, tests with only two or three rating levels were eliminated.

Consistency in Quality Rankings and Price

Multi-model tests were examined to determine the "orderliness" of price and quality rankings; i.e., in a two-model test, was the better quality model more costly? Each multi-model test of the 14 selected firms was placed into one of four categories. Complete disorder occurred when the prices of all models of a firm in a product test were inverse to the respective quality rankings. Disorder existed when a pair of models had equal quality rankings but unequal prices or unequal prices but equal quality. Partial order defined the condition in product tests of three or more models in which some but not all pairs of prices were inverted with quality. In a test categorized as complete order, the prices and quality of all of a firm's models corresponded completely.

RESULTS

Method 1 scores, shown in Column 3 of Table 3, ranged from 40.3 percent (RCA) to 68.3 percent (Westinghouse). The average percentage score of the 2117 models in 536 product tests was 53.9 percent.

Method 2 scores are shown in Column 5. Results by firm ranged from 67.9 percent (RCA) to 25.5 percent (Westinghouse). Only 991 or 46.8 percent of the models were "above average." Fewer models were ranked above average than below since ties in quality ratings were more common near the bottom of the hierarchy than at the top. A firm does well, therefore, to find more than one-half of its models in an above average position and only five manufacturers (RCA, Panasonic, Zenith, Whirlpool, and GE) achieved this status.

Excluding the 2- and 3-rating level tests to implement Method 3 eliminated 213 models in a total of 83 tests. Of the 1904 models in tests with four or more quality levels, 416 or 21.8 percent of the total were in the top quartile of rankings. Column 7 of Table 3 shows results by firm ranging from a high of 52.0 percent (RCA) to a low of 13.9 percent (Westinghouse). RCA was the only manufacturer with more than one-half its models in the top quartile. Less than one-fourth of the models of eight of the 14 companies were in the top quartile.

Columns 4, 6, and 8 show the various rankings of the 14 firms by each method. In each of the three methods, RCA achieved top marks and Westinghouse earned the lowest score. Generally, rankings were fairly consistent across the three methods.

Quality Scores for Three Product Classes

The data were also examined to determine whether important differences existed between the overall quality scores and the mean quality scores for three product classes: electronic equipment, major appliances, and small appliances.[2] Models in the three product classes chosen for investigation totaled 1331 or 62.9 percent of the total number examined. In each product class, the firms included were those with at least one model evaluated by CR in each of the ten years examined.

Nine of the 14 manufacturers marketed electronic equipment; three (RCA, Zenith, and Magnavox) were represented exclusively in this product class. The mean quality scores for electronic equipment for the remaining six firms were not significantly different (Student's t-test, $\alpha =$ .05) from those companies' respective overall quality scores. Penney was the only company with a higher percentage of ratings above average for electronic equipment (57.1 percent) than for the total product line (47.6 percent). RCA was the only manufacturer of electronic

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[2] Electronic equipment included televisions, radios, cameras, stereos, and related products. Major appliances were those priced at more than $100; small appliances were those costing less than $100.

TABLE 3. Quality Scores by Three Methods for 14 Selected Firms, 1975-1984

Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8
Firm	No. Models Tested	Method 1		Method 2		Method 3	
		Score	Rank	Score	Rank	Score	Rank
RCA	28	40.3%	1	67.9%	1	52.0%	1
Zenith	34	43.4	2	67.6	2	43.8	2
Panasonic	93	44.3	3	66.7	3	32.9	3
Whirlpool	57	49.6	4	57.9	4	32.7	4
GE	177	52.6	5	53.1	5	25.9	5
Sunbeam	68	54.3	6	48.5	6	21.5	10
Magnavox	23	54.7	7	47.8	7	22.7	7
Hotpoint	38	55.4	8	39.5	12	21.9	9
Sears	712	57.2	9	46.6	10	22.6	8
Penney	288	57.5	10	47.6	8	19.1	11
Frigidaire	37	57.6	11	45.9	11	25.0	6
Radio Shack	80	58.6	12	47.5	9	14.3	13
Ward	435	60.7	13	37.9	13	15.3	12
Westinghouse	47	68.3	14	25.5	14	13.9	14
Total	2117	53.9(av.)		50.0(av.)		26.0(av.)	

equipment with more than one-half its models in the top quartile.

Of the seven firms with major appliances tested by CR in each of the ten years, only three (Sears, GE, and Ward) had models in other product classes. The product class scores of those three companies were not significantly different from those firms' overall quality scores. The quality scores of the five concerns marketing small appliances were also not significantly different from those firms' respective overall quality scores. Therefore, it would appear that for the firms examined important differences do not exist between the quality of selected product classes and the quality of the total product line.

Year-to-Year Variations in Quality Scores

The data in Table 3 would appear to indicate that there is a relatively clear hierarchy in the quality ratings of the 14 major manufacturers. Should consumers therefore cancel their subscriptions to Consumer Reports and rely on the rule, "Once excellent, always excellent?"

Examination of Table 4, which presents the range in 1975 to 1984 annual quality scores calculated by Method 1, suggests not. From one year to the next, there was great variation in the scores earned by individual firms. Frigidaire (with an average score of 26.0 percent in 1976 and 91.0 percent in 1980), Hotpoint (15.5 percent, 1976; 72.3 percent, 1981), and Whirlpool (16.1 percent, 1984; 73.0 percent, 1983) showed the greatest range in annual quality scores. The annual average scores of Sears (50.0 percent, 1982; 66.0 percent, 1979) and Ward (53.3 percent, 1979; 72.7 percent, 1981) varied the least.

Year-to-year variations in product class scores were greater than for overall quality scores. The product class scores for 11 of the 14 manufacturers fell in either the top or bottom quartile in at least one year.

None of the firms demonstrated a pattern of steadily increasing or decreasing quality scores. Rather, changes from one year to the next appeared to be sporadic and unpredictable.

Price-Quality Orderliness

Table 5 contains data on the correspondence between price and quality rankings for eight firms with seven or more multiple-model tests in the 1975 to 1984 CR ratings. There does not appear to be a correlation between quality scores and whether a firm markets multiple models. Nor does a firm's quality score and the price-quality orderliness between its models orderliness between its models seem to be correlated. For example, Panasonic's Method 1 score was the third highest but only one-third of the prices and quality rankings of Panasonic models were completely orderly in multiple-model tests.

Table 6 summarizes the number of models in each of the four price-quality orderliness categories and includes models of all 14 manufacturers. As the number of models in a test increased, price-quality orderliness decreased. Over one-half of the two-model tests were completely orderly, compared to 7 percent of the tests containing four or more models.

TABLE 4. Range in Annual Average Method 1 Scores for 14 Selected Firms, 1975-1984

Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8	Col 9
	Range in Method 1 Annual Quality Scores							
Firm	Total Product Line		Electronic Equipment		Major Appliances		Small Appliances	
	From	To	From	To	From	To	From	To
RCA	13.5%	56.2%	13.5%	56.2%	-	-	-	-
Zenith	19.6	58.3	19.6	58.3	-	-	-	-
Panasonic	35.3	56.5	35.3	62.8	-	-	-	-
Whirlpool	16.1	73.0	-	-	16.1	73.0	-	-
GE	44.1	74.4	29.0	61.5	37.8	74.6	26.6	70.1
Sunbeam	45.0	67.0	-	-	-	-	44.5	67.0
Magnavox	35.0	100.0	35.0	100.0	-	-	-	-
Hotpoint	15.5	72.3	-	-	15.5	72.3	-	-
Sears	50.0	66.0	36.7	68.4	33.3	73.3	24.4	81.5
Penney	44.7	79.3	26.0	91.5	-	-	33.3	82.0
Frigidaire	26.0	91.0	-	-	26.0	91.0	-	-
Radio Shack	47.1	75.0	47.1	75.0	-	-	-	-
Ward	53.3	72.7	8.0	89.0	28.5	88.4	37.1	100.0
Westinghouse	43.8	81.4	-	-	43.8	81.4	-	-

TABLE 5. Orderliness of Price and Quality in Multi-Model Tests of Products of Eight American Firms, 1975-1984

Firms in Order of Mean Method 1 Score	Price-Quality Orderliness								
	Completely Orderly		Partially Orderly		Disorderly (P or Q tied)		Completely Disorderly		Total
	N	Percent	N	Percent	N	Percent	N	Percent	N
Panasonic	6	33.3%	3	16.7%	4	22.2%	5	27.8%	18
Whirlpool	5	71.4	0	0.0	0	0.0	2	28.6	7
GE	22	56.4	5	12.8	4	10.3	8	20.5	39
Sunbeam	8	40.0	5	25.0	4	20.0	3	15.0	20
Sears	92	53.2	28	16.2	23	13.3	30	17.3	173
Penney	37	57.8	5	7.8	9	14.1	13	20.3	64
Radio Shack	7	38.9	1	5.6	3	16.7	7	38.9	18
Ward	51	49.5	9	8.7	21	20.4	22	21.4	103

TABLE 6. 457 Multiple-Model Tests of 14 Selected Firms, by Number of Models Tested and Price-Quality Orderliness, 1975-1984

Number of Models	Price-Quality Orderliness								
	Completely Orderly		Partially Orderly		Disorderly (P or Q tied)		Completely Disorderly		Total
	N	Percent	N	Percent	N	Percent	N	Percent	N
2-Model Tests	194	58.8%	Impossible		49	14.8%	87	26.4%	330
3-Model Tests	42	42.0	34	34.0%	19	19.0	5	5.0	100
4-or-More-Model Tests	2	7.4	22	81.5	2	7.4	1	3.7	27
Total	238	52.1%	56	12.3%	70	15.3%	93	20.4%	457

Comparison to Morris' Results

Many of the results from the current research are similar to Morris'. In her research, the mean Method 1 quality score of 2347 models in 500 product tests was 55.6 percent (Morris 1971b, p. 128) compared to 53.9 percent in the current research. RCA and Zenith, the firms ranked first and second by each method in the current research, were also the top-ranked firms in Morris' research. However, Zenith ranked higher than RCA in the 1960 to 1969 tests by all three methods.

Morris also found wide year-to-year variations in firms' annual quality scores. In contrast, she found that firms with higher than average quality scores were also the ones that marketed multiple models and tended to have more orderly multiple-model tests. These findings were not supported by the current research.

DISCUSSION

Limitations of the study are primarily those inherent in the use of CR data. Since CR generally does not provide information on the degree of quality differences between models, only crude measures of overall quality rankings were possible. Thus, the quality scores indicate only relative quality and do not provide any information on absolute quality. Furthermore, changes in a firm's quality scores from one year to the next may not mean that the quality of that firm's products has changed. Because the quality scores are rank order comparisons, changes in the quality of one firm's models affects the scores of other firms.

The overall quality rankings are also valid only to the extent that consumers agree with CR's quality ratings. A consumer's assessment of the relative importance of product characteristics may differ significantly from that of the CU staff or a consumer may value product characteristics (such as aesthetic qualities) which were not evaluated by CR in rating product quality.

Moreover, although significant differences were not found between firms' quality scores for individual product classes and those companies' overall quality scores, significant differences *may* exist within product classes. The quality scores for a manufacturer's refrigerators may be significantly different from the quality scores of other major appliances marketed by the same firm, for example. The infrequency with which CR retests products makes it difficult, however, to conduct any meaningful assessment of the consistency of individual brands' quality rankings for specific products.

Finally, the measure of price-quality orderliness is imperfect. Factors affecting price but not rated by CR, such as packaging or advertising, may explain part of the disorderliness observed. Also, the number of firms marketing multiple models may be underreported if CR chose to report on only one of a firm's models in a product test.

Despite the limitations, the results unquestionably support the conclusion Morris reached 15 years earlier. Consumers cannot rely on a firm's past quality ratings as an indication of future performance. Year-to-year variations in both overall quality scores and scores for individual product classes were the rule rather than the exception. Furthermore, during the ten-year period examined, one or more of the models of each manufacturer achieved the lowest possible ranking. No firm, regardless of its overall ranking, failed to produce at least one top-rated model. Moreover, the tests of price-quality orderliness indicate that list prices of the various models of a firm frequently do not correspond to their relative quality. As Morris (1971a, p. 18) concludes, "At any given time, one would be foolish indeed to count on any firm doing an outstanding job on any or all of its products, solely on the basis of its past performance. . . . Wise buyers will consult . . . the monthly (*Consumer*) *Reports* on a product-by-product, model-by-model, and year-by-year basis."

REFERENCES

Maynes, E. Scott (1976), *Decision-Making for Consumers*, New York: Macmillan Publishing Company.

Morris, Ruby Turner (1971a), *Consumers Union: Methods, Implications, Weaknesses & Strengths*, New London, CT: Litfield Publications.

__________ (1971b), "Major Firms Comparatively Evaluated," *Journal of Consumer Affairs*, 15 (Winter): 119-39.

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CONSUMERS IN THE MARKETPLACE: DISCUSSION

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Overview

The papers in this session illustrate something of the richness of consumer-related research. We have one paper which explores an emerging concern (clothing purchases by the elderly) and two others which examine more established issues in light of current developments. Pushing into new areas, while reassessing and replicating earlier work seems to me to strike a healthy balance and evidences a degree of maturity in the field.

My comments on Prof. Norum's paper (apparel-shopping problems of the elderly) will be fairly brief because it is a preliminary study. I have something more to say on Meloy, et al (analysis of grocery coupon users) in part because of the questions they raise and in part because of the questions they leave unaswered. I will conclude with Prof. Cude's paper (quality assessments), which raises a number of intriguing issues. Let me note, finally, that these comments are based on copies of the papers I was provided prior to the Conference and therefore may not reflect the versions printed here.

On Norum: Apparel-Shopping & the Elderly

Prof. Norum is to be congratulated for her efforts to deal with an issue of growing importance. We have heard a great deal of talk about the impact of an aging population, but most of it has been just that -- Talk! Dr. Norum has taken the issue a step further and explored a specific, and significant, implication of that development.

I congratulate her, too, on the tone of her inquiry. She has dealt with the issue in a straightforward manner which treats aging in its proper developmental terms. Special needs of the older consumer are dealt with, but there is no sense of "a pathology of aging."

Because of the preliminary nature of the study, possibilities for statistical analysis are limited. As she continues this line of inquiry, I would make the following suggestions:

1. The abstract maintains that the greatest value of the study was in the development of the instrument, but that point was not developed in the body of the paper.
2. Note is made of the limited number of information sources used by the older consumer. As the population ages to include people who have more experience with things such as unit pricing, the situation may change.
3. Budget information on the older consumer would be helpful (e.g., what portion of the budget goes to apparel?).
4. The SEW variable is used as a proxy for knowledge, but might also relate to willingness to attempt alterations.
5. The entire question might be considered in terms of a more general model. Household production is one possibility, with implications being drawn from the lower cost of time (and hence the greater willingness to use time) among older consumers.

Meloy, et al, on Use of Coupons

In their investigation of grocery coupons, Prof's. Meloy, McLaughlin and Kramer continue a long-standing concern in the consumer literature. As they point out, the growing use of coupons marks the topic as an on-going area of interest.

There are a number of issues which I would like to raise about their paper, beginning with their comments on changes in the family. They are not alone in this respect, but I think it is time we stoped being surprised that Ozzie and Harriet are no longer the norm for families in the United States. The emergence of the dual earner family was confirmed by the 1980 census, based on data from 1979 which probably reflected changes which had taken place earlier. Thus, what the authors call "traditional standards" could easily have been outmoded for 15 years or more. That point is important, because if we are looking for changes in consumer behavior associated with changes in family time use, we should be focusing on the mid-1970's, not the late 1980's.

I must also take exception with the authors' contention that the $2.75 billion worth of coupons redeemed in 1986 marks a "'savings'. . . from what would otherwise have been spent." That would be bad news to the companies issuing the coupons, for it would mean coupons had no impact (and the companies wasted a lot of money). Obviously, it cannot be assumed that consumers would have spent the same amount on the same items in the absence of coupons.

The authors' carefully drawn sample provides insight into coupon use. The consumer's tendency to use coupons for products he or she is already buying is of special note, with implications for the use of coupons when new products are introduced (as the authors indicate).

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In the end, though, I found myself wondering more about the questions which hadn't been asked than about the findings reported in the paper. The reason for that, I believe, is that the paper is essentially a marketing study. There are concerns which relate to the consumer and some implications for public policy, but neither is the real focus of the paper.

Having said that, it is incumbent on me to say something about what I think the consumer perspective is in this case. It begins by viewing coupons, like advertising and packaging, as a marketing tool used by sellers. All three, of course, result in higher prices to consumers; in the case of coupons, the brunt of the increase is borne by non-users.

The interesting questions, it seems to me, are associated with the tremendous changes which have taken place in American eating habits this decade. These include:

- continued increase in meals eaten away from home;
- decline of the traditional evening meal for which family members sit down together;
- tremendous growth in sales of pre-prepared meals; and, more recently the
- widescale introduction of microwave-ready containers.

These developments are commonly taken to be a lagged response to changes in the family . I don't think anyone would maintain that coupons have caused any of this, but there is reason to believe that the changes have made coupons more important. For one thing, coupons have become more prevalent; most fast-food establishments now give grocery-type coupons.

More importantly, the shift away from basic grocery items to prepared meals is a shift toward products which are more likely to offer coupons (because coupons are offered by the manufacturer of the prepared foods). Similarly, the introduction of new products and campaigns to promote newly repackaged products typically rely heavily on coupons.

At a more subtle level, consider today's typical family "non-meal," which is characterized by family members eating individually , on the run or in front of the TV. Contrast that with the more traditional exercise of family members sharing the same food at the same time in the same place. Each family member is now more likely to have his or her own single-serving item fresh from the microwave. Each of those items is likely to have a coupon, which raises the potential number of coupons tremendously! The whole eating environment has changed. For many families, the question isn't: "Should we eat at home or eat out?" but rather: "should we get our fast food out or get it at home? Research on the role of coupons should be instructive. However, I don't believe that is a central question. The amount which coupons save users (or cost non-users) is minimal compared to the added cost consumers choose to pay by opting to eat the way they do. For all their promotional expenditures, I don't believe sellers are driving the market; they are merely responding to changes in family eating habits. That is the change which we need first to recognize and then to explore systematically.

Cude on Consistency of Product Quality

Prof. Cude has taken on a most bedeviling topic: can we generalize about manufacturer's product quality over time? It is certainly a question which manufacturer's believe is important. Think of all the advertisements you see which stress quality; businesses spend billions to associate their name with quality in the consumer's mind.

Judging from Prof. Cude's results, they would be better off putting that money into improving their products. The degree of variation makes generalizations difficult and leaves the consumer, as she notes in her conclusion, with a new challenge each time he or she goes into the market.

With that in mind, I would like to make a few general comments, most of which focus more on this line of research than on the particulars of this paper. In terms of the latter, however, I would suggest that Prof. Cude develop the idea of "orderlyness" of prices more fully. She defines the concept and reports the findings, but does not really develop the point.

On that same topic, I would repeat Scott Maynes' comment about prices as reported in Consumer's Reports. Given the degree of price variation, it is difficult to make judgments based on the price as reported in CR. Of course, that is CR's problem, but that makes it Prof. Cude's problem, too.

The same could be said for the more general question of the validity of the types of data she is using (and, again, I am sounding like Scott Maynes). Prof. Cude details these points, especially the importance of the assumptions made about the intervals in ordinal data. A note on limitations, however, may not be sufficient. Thus, I contend that instead of measuring "Consistency in the Quality of Products," the paper really deals with "Consistency in the Measures of the Quality of Products.

Consider Figure 1 (over leaf) with three brands and three tests. Brand C ranks first in two of the three tests and using ordinal measures, would have the best overall score by either Method 1 or 2 as outlined in the paper. That provides reliability, but in this case, the validity is in question. Using the cardinal measures available here, Brand C is actually the worst.

FIGURE 1: Hypothetical Test Results

Brand	Actual Scores for Test		
	#1	#2	#3
A	91	85	86
B	90	86	85
C	82	87	87

Those figures are obviously contrived, but they are certainly plausable. Some recent work we have been doing at the University of Georgia makes me wary for another reason. We undertook a product evaluation study for the Roper Corporation consisting of eight different tests on 20 ranges. Some tests had over 10 parts with as many as 3,000 bits of data.

Thus, we had to define weights for each component of each test and then for the tests themselves in order to come up with an overall score. Fortunately, we found that the weights did not have a major impact on the final scores. We noticed, however, that although numerical changes were small, rankings of the models proved highly sensitive to changing the weights (because results were clustered).

The data in Figure 2 are actual rankings for the top four ranges. The variations are evident and it is clear that the changes in weights would have a major impact using the Morris/Cude methods. Thus, it is possible that what appears to be variation in quality may actually be variation in the quality measure.

FIGURE 2: Impact of Weights on Product Rankings

Brand	Ranks with Differing Weights			
	W1	W2	W3	W4
A	1	2	1	2
B	2	1	2	3
C	3	5	4	1
D	4	4	6	5

Note that CR reports neither the scores nor the weights employed. That makes generalizations most difficult. Does that mean this line of research leads to nothing with the data available? We cannot even answer that questions with certainty because we do not know how pervasive the ordinal-to-cardinal bias is or what weights are used. I am convinced that the problems are significant, but no one can demonstrate that fact.

The conclusion, then, is obvious. It is time for CR to be more forthcoming with information. Consumers' Union says it doesn't publish actual scores because readers would be confused by numbers. That is a rather weak argument for an organization which supports disclosure of numbers for nutritional value, annual percentage rates and EPA mileage ratings on automobiles.

IMPERFECT INFORMATION AND THE PRICE-QUALITY RELATIONSHIP

Loren V. Geistfeld, The Ohio State University[1]

An analysis of the literature reporting research on the association between price and quality suggests that consumer markets are not working well. Price and quality are generally poorly related which indicates that consumers are making purchase decisions with inadequate information.

This paper freely draws from an earlier paper presented at the International Conference on Research in the Consumer Interest (Geistfeld, 1988). The earlier paper presents a critical overview of the price-quality research. This paper will focus on selected articles which provide an overview of the price-quality research of U.S. markets without focusing on important conceptual and methodological issues.

The fundamental issue to be considered is whether or not consumers are efficient in their purchase decision making activities. Efficient consumer decision making occurs when "consumers use their limited financial, material, time and human resources in a way such that the greatest bundle of goods possible is obtained through a purchase decision." (Geistfeld, 1981:44). If consumers make purchase decisions with inadequate information, it is likely that they will be inefficient with respect to purchase decisions--that is they will not be acquiring the "greatest bundle of goods possible."

The issue becomes one of how to assess whether or not consumers are acquiring the greatest possible bundle. One way to assess this is to examine the association between price and quality. If consumers are efficient with respect to their purchase decisions, they will not "overpay" for goods or services. In other words, they will pay more for a given model of a product only to the extent that it provides additional quality. This suggests efficient markets should exhibit a close association between price and quality. If this close association does not exist, markets are inefficient and consumers are making decisions with imperfect information.

The first research to examine the association between price and quality was performed by Oxenfeldt (1950). He studied 35 products from 36 tests reported in Consumer Reports (CR) between 1939 and 1949. The Spearman rank order correlation coefficients ranged from -0.81 to 0.82 with a mean of 0.25 and median of 0.34. Twenty-five percent of the coefficients were negative. He concluded that the relationship between price and quality was generally weak.

In what is the most frequently cited paper in this literature, Morris and Bronson (1969), using CR data for 48 product tests reported between 1958 and 1967, found Spearman coefficients ranging between -0.66 and 0.96 with a mean of 0.29 and a median of 0.36. Twenty-one percent of the correlation coefficients were negative. They also found wide shifts over time in the price-quality correlations for detergents, manual defrost-top freezer refrigerators and vacuum cleaners. They concluded that the correlation between price and quality was so low as to be meaningless and that the correlations were not stable and shifted over time.

Sproles (1977) used data from 135 tests appearing in CR and Consumers Research Magazine (CRM) from 1972 to 1974. He found Spearman coefficients ranging from -0.66 to 0.90 with a mean of 0.26 and a median of 0.34. Twenty-three percent of the coefficients were negative. Sproles concluded by noting that "an objective price-quality relationship cannot be generalized across products...[and] consumers following the decision rule of price-equals-quality would perhaps make satisfactory or maximizing decisions in over half of their choices." (p. 74)

Geistfeld (1982) used price data collected in Indianapolis and Lafayette, Indiana, and quality data published in CR/CRM between 1976 and 1979. He found Spearman coefficients for Lafayette ranging from -0.82 to 0.79 with a mean of 0.11 and a median of 0.12; 38% of the coefficients were negative. For Indianapolis he found coefficients ranging from -0.75 to 0.83 with a mean of 0.19 and a median of 0.38; 36% of the coefficients were negative. Geistfeld concluded that the price-quality relationship varies across markets and by store type.

Using data on running shoes published in Runner's World, October 1979, Archibald, Haulman and Moody (1983) found a rank order correlation of 0.21. They concluded that while the price quality relationship was positive, it was at a level suggesting that good and bad buys tend to co-exist in the market.

In a recent article, Ginter, Young and Dickson (1987) studied the association between price and quality in the used car market. Maintenance and repair information published in the April 1982 issue of CR was used to assess quality and prices were those published in the January 1983 central edition of the National Automobile Dealer Association Official Used Car Guide. Their methodology utilized multiple regression analysis. In general they found that reliability as reflected in maintenance and repair indices was not associated with price.

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Duncan (1981) used actual test scores for SLR cameras published in CR, November 1974 and for pocket cameras published in CR, June 1978. Price data came from store surveys in Ann Arbor, Michigan. He employed the concept of the perfect information frontier which is "the set of points, and the line segments connecting them, for which a given level of quality may be purchased at the lowest price" (Maynes, 1976:535) and correlation analysis. Duncan found that pocket cameras tended to be more closely clustered around the PIF than are SLR cameras which was confirmed by a zero-order correlation coefficient of 0.11 for SLR cameras and 0.68 for pocket cameras. He noted that the price dispersion was too large to be solely attributed to search costs; that over time, lower quality varieties tend to disappear more quickly from the market than higher quality varieties; and that price dispersion tends to decrease while price-quality correlations increase over time.

The most extensive study using the PIF concept was reported by Maynes and Assum (1982). The Syracuse, New York market was the source of price data with cardinal measures of quality being constructed by the authors from CR ratings. Of the 17 products analyzed, 23% had the highest price exceeding the lowest price by less than 30%, while 42% had the highest price exceeding the lowest price by 100% or more.

What does this research suggest with respect to the efficient operation of markets? Are consumers swimming in a sea of imperfect information? The answer is yes!

The generally weak association between price and quality reported in studies using the Spearman rank order correlation coefficient suggests that markets are not working well. The studies reported here have an average Spearman coefficient of 0.22. It should also be noted that no median value approaches 0.50 reinforcing the sense that markets are not working well.

It is important to note that this conclusion is reinforced by results of studies using a variety of data sources and analytical methods. Price data from local consumer markets was used by Geistfeld (1982); quality data from a source other than CR/CRM was used by Archibald, Haulman, and Moody (1983); a different analytical procedure, multiple regression, was used by Ginter, Young and Dickson (1987); a fundamentally different measure of quality (a cardinal measure) was used by Duncan (1981) and Maynes and Assum (1982). While all consumer markets are not operating poorly, a review of the price-quality literature suggests there is cause for concern.

REFERENCES

Archibald, Robert B., Clyde A. Haulman, and Carlisle E. Moody, Jr. (1983), "Quality, Price, Advertising, and Published Quality Ratings," Journal of Consumer Research, 9 (No. 4; March): 347-356.

Duncan, Greg J. (1981), "The Dynamics of Local Markets: A Case Study of Cameras," Journal of Consumer Affairs, 15 (No. 1; Summer): 64-74.

Geistfeld, Loren V. (1981), "Measurement of Informational Adequacies and Imperfections in Local Consumer Markets," in Carol B. Meeks (editor), Proceedings, 27th Annual Conference of the American Council on Consumer Interests, 44-49.

______ (1982), "The Price/Quality Relationship: Revisited," Journal of Consumer Affairs, 16 (No. 2; Winter): 334-346.

______ (1988), "The Price-Quality Relationship: The Evidence We Have, The Evidence We Need," in E. Scott Maynes, The Frontier of Research in the Consumer Interest, Columbia, Missouri: The American Council on Consumer Interests, forthcoming.

Ginter, James O., Murray A. Young, and Peter R. Dickson (1987), "A Market Efficiency Study of Used Car Reliability and Prices," Journal of Consumer Affairs, 21 (No. 2; Winter): 258-276.

Maynes, E. Scott (1976), "The Concept and Measurement of Product Quality," in Nester E. Terleckyj (editor), Household Production and Consumption, New York: National Bureau of Economic Research, 529-560.

______ and Terje Assum (1982), "Informationally Imperfect Consumer Markets: Empirical Findings and Policy Implications," Journal of Consumer Affairs, 16 (No. 1; Summer): 62-87.

Morris, Ruby Turner and Claire Sekulski Bronson (1969), "The Chaos of Competition Indicated by Consumer Reports," Journal of Marketing, 33 (No. 3; July): 26-34.

Oxenfeldt, Alfred R. (1950), "Consumer Knowledge: Its Measurement and Extent," Review of Economics and Statistics, 32 (No. 4; November): 300-314.

Sproles, George B. (1977), "New Evidence on Price and Product Quality," Journal of Consumer Affairs, 11 (No. 1; Summer): 63-77.

CREDIT RATIONING AS A CONSTRAINT ON THE FINANCIAL FUTURE OF FAMILIES

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ABSTRACT

As a component in financial management, credit can have a major impact on the destiny of families. One factor which acts as a constraint on the financial futures of families regarding credit is referred to as credit rationing. This paper investigates the effect of various household credit factors on rationed status. Using stepwise discriminant analysis to predict rationed status of dual-earner families and female householders, this research identifies the impact of the credit factors on predicting the rationed status of the two family types. Results indicate that the factors which influence rationed status do not differ substantially between family types.

The use of household financial resources in the present clearly can affect a family's future. As a component in financial management, credit can have a major impact on the destiny of families. Researchers have shown that through the use of credit, the family's income stream could be used to meet desired family consumption levels across the life cycle. Heredeen suggested that consumption in the present by using future income, i.e. incurring debt, can lead to utility maximization. By borrowing against future income, a household can accumulate earning assets "in order to increase its income stream" or "it can accumulate consumer durable assets in order to increase its flow of consumption services" (Herendeen, 1974).

The ideal level of debt for utility maximization varies for each family as do the factors which affect credit-use levels for each family. The amount of debt a family incurs in order to reconcile present demands with both present and future income is a function of many factors. Some factors involve a degree of choice, while other factors act as constraints on a family's demand for credit.

BACKGROUND

One factor which acts as a constraint regarding credit use is referred to as credit rationing. Credit rationing occurs when a consumer "receives a smaller loan than he would desire at the interest rate charged by the bank" (Keeton, 1979) indicating that the supply of credit is rationed through nonprice elements, in particular, elements reflecting the borrowers willingness and ability to repay the loan. Families which have been turned down completely or have received less money than requested are rationed. All other households are unrationed (Juster and Shay, 1964).

The actual granting or refusing to grant credit is not a matter of choice for the family, but rather is a decision within the control of the lender. Although many financial decisions are made by the family itself, they have an impact on other financial decisons made for the family. Specifically, suppliers of credit make decisions based on the financial status of the family when credit is requested. Previous research looking at credit rationing has attempted to identify characteristics to be used to predict whether a family would be rationed or unrationed. Juster and Shay showed that marital status, length of marriage, after-tax income, age, attitude about credit and knowledge of credit information could be used to predict rationed status (Juster and Shay, 1964). Walker and Sauter looked at rationed and unrationed households with respect to credit contract terms, the purchase price of the good and family demographics (Walker and Sauter, 1974). Little effort has been made to look at household rationed status with regard to family credit variables.

PURPOSE

If rationed status could be predicted using household debt characteristics, households could manage their finances in the present in order to be better assured of obtaining the credit they might desire in the future. Financial management and counselling experts would have more information for clients when advising them regarding financial patterns for the future. Having this information in advance of the need for credit would afford families increased control over their financial futures. Furthermore, it is important to understand that different family types differ in financial position and therefore different factors might affect their financial futures.

This paper investigates some credit factors which are believed to have an effect on the rationed status of different types of families. Lenders grant credit on the basis of the degree of risk they are willing to assume; they must assess the household's willingness and ability to repay the loan being requested. Willingness and ability to repay depend on several factors, among them are current income, current assets, future income potential, existing debt level and previous repayment performance. It follows, then, that these factors affect the rationed status of housholds. It is expected that the impact of these factors will vary with different family types, thus this research will identify the impact of these factors on predicting the rationed status for different families. Information of this type would be beneficial in the financial counselling of families.

Presently, little, if any, distinction is made among different household types when counselling.

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Preliminary research suggests that credit behavior and factors affecting this behavior vary with household type. It is logical, therefore, that credit/financial counselling should vary in a manner corresponding to behavior patterns.

METHODOLOGY

Using stepwise discriminant analysis to predict rationed status, two different household types are investigated: dual-earner households and households with female heads having children under age 18. The data used for this study are from the 1979 Consumer Credit Survey, Purdue University Credit Research Center. There are 368 dual-earner families (DEF), 77% of which are unrationed and 23% are rationed. Of the 81 female householder families (FHWC), approximately 59% are unrationed while 41% are rationed. Rationed/unrationed is used as the criterion variable. The discriminating variables included in the study are:

- value of liquid assets (LAS),
- prospects of future income (FINC),
- past loan repayment patterns (PLRP),
- total credit line on all credit card accounts (TCLCC),
- perception of future repayment patterns (PFRP),
- past credit card repayment patterns (PCCR),
- total owed on all credit card accounts (TOCCA), and
- total monthly amount owed on installment loans/monthly household disposable income (DEBTINC).

Total number of credit card accounts was initially included, but due to its high correlation with total owed on all credit card accounts, it was eliminated from further analysis.

RESULTS

Of the 81 FHWC families included in the study, 43 are rationed and 38 are unrationed. The mean debt-income ratio for the unrationed group is about 3%; for the rationed group, it is 11%. For the unrationed group, the mean total credit line on all credit card accounts was about three times greater than that of the rationed group, $731.58 and $239.53, respectively (Table 1). Three of the initial eight variables included in the model are identified as discriminating between the two groups, DEBTINC, TCLCC, and PLRP. However, only DEBTINC is significant (p=0.02). The three variables included in the function explain only about 12% of the variance in rationed status. The function is significant (p=0.018). DEBTINC entered the function first, TCLCC second and PLRP third. Table 2 identifies the coefficients of each discriminating variable. About 62.6% of the cases in the FHWC model were correctly classified.

Slightly over 30% (113) of the families in the DEF model are rationed while the remaining are unrationed (255). The mean DEBTINC for the rationed goup is 11%, for the unrationed group, 8%. The mean TCLCC for the unrationed group was nearly twice that of the rationed group, $2010 compared to $1140 (Table 1). Four of the initial eight variables are included in the discriminating function. They are, in order of entering: PLRP, TCLCC, DEBTINC, and PFRP. These four variables explain only about 8% of the variance in rationed status for the DEF families. The function is significant, however, at the 0.00 level. (See Table 2 for coefficients.) Nearly 68.9% of the cases in the DEF model were classified correctly.

As shown in Table 2, higher debt-income ratios are associated with unrationed families as is having repaid past loans on time for both the DEF and

Table 1 Means and Standard Deviations for All Variables

	FHWC Model				DEF Model			
	Means		St. Deviations		Means		St. Deviations	
Variables	Unrationed	Rationed	Unrationed	Rationed	Unrationed	Rationed	Unrationed	Rationed
Debt-Income Ratio	0.034	0.107	0.060	0.187	0.081	0.112	0.113	0.086
Value of Liquid Assets	7922.303	10843.093	13735.446	17687.203	53307.388	46577.164	55597.971	47163.269
Total Credit Line on All Credit Card Accounts	731.579	239.535	1902.361	536.030	2010.333	1140.947	2626.950	1745.497
Total Owed on All Credit Card Accounts	163.053	138.256	524.778	301.867	570.231	309.097	1543.845	509.067
Past Loan Repayment Patterns[a]	0.211	0.372	0.413	0.489	0.098	0.265	0.298	0.444
Past Credit Card Repayment Patterns[b]	0.211	0.256	0.413	0.441	0.404	0.354	0.492	0.480
Perception of Future Repayment Patterns[c]	0.711	0.628	0.460	0.489	0.925	0.823	0.263	0.383

[a] 1=on time; 0=not always on time.
[b] 1=don't always pay in full on all; 0=all others.
[c] 1=trouble unlikely; 0=trouble likely.

Table 2 Effect of Credit Factors on Rationed Status[a]

Variables	FHWC Model	DEF Model
Debt-Income Ratio	0.745 (0.0218)	0.401 (0.0000)
Past Loan Repayment Patterns	0.468 (0.1221)	0.560 (0.0000)
Total Credit Line on All Credit Card Accounts	-0.526 (0.0694)	-0.460 (0.0059)
Perception of Future Repayment Patterns	———	-0.260 (0.1543)
Canonical Correlation	0.3489	0.2895
R^2	0.1217	0.0838
Significance Level	0.0181	0.0000
Prediction	0.6262	0.6859

[a] Rationed=0; Unrationed=1

FHWC models. Total credit line on all credit cards is associated with rationed families for both models; as the credit line increases, the more likely the household is to be rationed. These three variables are included in both models. Each is significant in the DEF model while only the debt-income ratio is significant in the FHWC model. Although not significant in itself, perception of future repayment patterns contributes to the significance of the entire DEF discriminant function. The likelihood of future repayment problems is associated with unrationed families. This could suggest that families perceiving the possibility of repayment problems would not apply for credit, therefore, would not be subject to rationing.

DISCUSSION AND CONCLUSIONS

The results suggest that of all the family credit variables used in the study, the debt-income ratio has the greatest impact on rationed status of the FHWC family. PLRP have the greatest impact on the rationed status of the DEF family. Consequently, these two factors have the greatest impact on the financial futures of the respective families.

The lack of significance of the TCLCC and the PLRP variables in the FHWC model indicate that more elements enter into the rationing process for these families which were not sorted out or accounted for in the analysis. Similar conclusions can be drawn regarding PFRP in the DEF model.

Comparing the two models, it is interesting to note that DEBTINC, TCLCC and PLRP entered each. This result was not expected as it was originally suggested that different variables would discriminate between rationed and unrationed families for each model. Perhaps some demographic factors included in the analyses would allow for more clear differences between models, for example, age of household head and number and ages of children living in the household.

Explained variance is low in both models. This could reflect the heterogeneous nature of the subsamples used. Employment status and other factors not included in this study could vary considerably within each subsample. Furthermore, the size of some of the standard deviations (Table 1) indicates a great deal of dispersion within groups. In addition, the models might be misspecified. That is, as suggested earlier, variables are ommitted that should have been included.

Results of this research and similar future works will aid in identifying the extent to which households have control of their destinies with regard to one aspect of credit-use behavior, rationed status. Factors have been identified herein which contribute to the determination of risk levels by lenders. Subsequently, families can be helped in their financial planning in the present in order to avoid credit refusal in the future.

REFERENCES

Herendeen, James R. (1974), "The Role of Credit in the Theory of the Household," *Journal of Consumer Affairs*, 8 (No. 2; Winter): 157-81.

Juster, F. Thomas and Robert P. Shay (1964), *Consumer Sensitivity to Finance Rates: An Empirical and Analytical Investigation*, New York: National Bureau of Economic Research Occasional Paper No. 88.

Keeton, William R. (1979), *Equilibrium Credit Rationing*, Ph.D. Dissertation, New York: Garland Publishing Company.

Walker, Orville C., Jr., and Richard F. Sauter (1974), "Consumer Preferences for Alternative Retail Credit Terms: A Concept Test of the Effects of Consumer Legislation," *Journal of Marketing Research*, 11 (February): 70-80.

COLLEGE STUDENT USE OF CONSUMER CREDIT

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ABSTRACT

A case study of credit use by college students enrolled in Personal and Family Finance classes first describes and compares the personal money management profiles of males and females, and then identifies items that are correlated with three credit variables: freedom from debt, adequacy of credit and extent to which carrying a credit card encourages more spending. Implications are drawn for financial educators, counselors and planners.

Marketers of credit target the young, the higher educated, the higher income consumer. This is seen on college campuses in the distribution of credit applications, ads in campus publications, the hiring of campus representatives to encourage potential car purchasers through use of credit and through provision for tuition and other charges to be financed through use of credit cards. Banking services such as overdraft accounts facilitate loans for users of automatic teller machines. Not all college students find it easy to establish credit accounts, however, because they often have no collateral.

While the regular use of credit cards is related primarily to current day-to-day handling of money and to short term credit management, the increasing use of student loans and of extended periods for financing autos are important types of consumer debt that are carried over after graduation. Policy makers are beginning to wonder whether students loans are overburdening a generation (Hansen 1986).

College students enrolled in Personal and Family Finance courses represent a population who have availed themselves of the opportunity to gain knowledge and understanding. Educators and financial counselors and planners would appear to have a particular need to understand this group, some of whom will be future consumers of their services and some of whom will become colleagues. There appears to have been more research dealing with children and adolescents than with the college population. In studies of the population as a whole, college students have been classified along with homemakers and the unemployed because they are outside the regular labor force, making it difficult to apply traditional economic criteria in evaluation of their use of credit (Ryan and Maynes 1969; McAlister and Kinsey 1979).

The purposes of this study are: (1) to describe student use of credit and to note possible gender differences, and (2) to gain a better understanding of the relationship of selected money management attitudes and behaviors of college students to debt level, adequacy of credit and credit card spending.

SUMMARY OF RESEARCH

It has been noted that credit is used more by young householders, and that the young are also the more likely to be over-indebted. The studies reported have focused on the credit use of established households; assumptions about college students have generally had to be based on the fact that they fall in a certain age category or that they represent a particular level of education.

Economists have found debt-to-income ratio to be an important indicator of a manageable credit limit (Ryan and Maynes 1969; Dunkelberg and Johnson 1975; McAlister and Kinsey 1979; Marlowe 1981; Dessart and Kuyler 1986). Other objective criteria include demographics, size of monthly payments, interest expenses, and notices of arrears in payments (Dessart and Kuyler 1986). The results of credit studies may not be comparable because different techniques are required for revolving credit and instalment credit as well as for convenience credit and credit which becomes debt.

Studies of the over-indebted provide clues as to potential danger signals. Generally use of credit is correlated with knowledge about credit, but Dessart and Kuyler (1986) found that the relationship between level of knowledge about credit and problematic debt situation was curvilinear. "It appears that those who claim little knowledge, regardless of whether the actual level of knowledge is high or low, are far more cautious in their decisions and have a lower probability for the problematic debt situation. On the other hand, people who have a low to moderate level of knowledge about forms of credit and financial institutions, but who are not aware of their lack of knowledge, run a far greater risk of a problematic debt situation" (Dessart and Kuyler 1986, p. 323). Knowledge about credit and attitudes toward credit are correlated with practices (Danes and Hira 1986). A causal relationship has not been established: practices may also contribute to knowledge and attitudes (Greninger 1986). Large numbers of people do not know the Annual Percentage Rate of their loans, and, if they do, they can not translate it into reasonably accurate dollar figures (McAlister and Kinsey 1979).

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Dessart and Kuyler (1986) found locus of control to be one of several psychological variables which was most discriminating in relation to problematic debt situations. Other psychological factors promoting debt problems were: the way the respondent viewed the development of the economy, being chiefly oriented to the future or past, not willing to defer satisfaction of needs in the short term, and not considering financial management as very important.

It is important to examine the role of credit in the context of overall money management. Courtless (1971) found evidence that 7% of family debt level was being financed at the expense of food. This was more likely to be observed in families with no children. Hira (1986) in surveying two-earner families concluded that the amount of monthly debt payment and paying finance charges rather than total debt appear to be related to their satisfaction level. Seventy four percent credited the ability to stay out of debt and 87% attributed their ability to pay back money owed as factors associated with satisfaction. A later study by the same researcher (Hira 1987) found that higher levels of assets were associated with having more credit cards and being confortable with owing more. This study did not provide data on level of liabilities. It is, however, general knowledge that creditors are more likely to grant additional credit to those who already have accounts, a practice that is questioned by Dessart and Kuylen (1986) on the basis that this appears to be associated with problematic debt situations.

Noyes (1982) found that working wives and non-working wives held similar attitudes toward credit: There was agreement in their approval of the use of credit in case of illness or accidents, car purchase and education. Families of working wives saved less and paid more in monthly credit payments than families of non-working wives.

The belief that one's life can be or should be directed by one's values is shared by many fields of study. Linck (1982) using the high ranking items from each of 5 economic values identified by Price (1968), found that what respondents stated as highest values were the areas in which they were least willing to make sacrifices. Painter and Hayes (1982) found female college students with a self-fulfillment orientation more likely than those who did not have this orientation to think that people get into serious debt problems because of lack of knowledge about money and credit. Possession of credit cards (Hirschman 1979) and even association with symbols of credit cards (Feinberg, 1986) are associated with increased spending. Some studies have focused on the use of Electronic Funds Transfers (EFTS) and credit because they both involve plastic cards, and because the overdraft feature of debit cards and automatic payments may automatically activate a loan (Dunkelberg and Johnson 1975; Churaman (1984).

Some important non-economic indicators which provide qualitative insight into credit use have been identified in the review of literature. One might predict that those who are more debt free are those with more adequate resources and higher economic status. One would also expect that they feel that control of their money is important and that self control is not a problem for them. In general one would expect them to have a more internal locus of control and higher levels of satisfaction. Also, one might logically expect those who put a higher value on security to be more likely to minimize debt levels.

It has been recognized that for some people carrying a credit card represents a temptation to spend more. It might be predicted that these individuals are less likely to feel in control, to be more impulsive spenders, to value self-indulgence. This characteristic would also seem to be associated with an external locus of control, including more attribution to luck. The results of this behavior would be expected to bring a lower satisfaction level than that experienced by individuals who do not have such temptation to spend more when carrying a credit card.

The literature suggests that it would be difficult to predict and possibly to interpret many of the factors that could be associated with adequacy of credit. This will have merely an exploratory examination.

METHODOLOGY

Written surveys were used in Personal and Family Finance classes at a major university during the 1985-86 school year and the 1986-87 school year. See Table 1.

TABLE 1. Instruments, Timing and Respondents

Instruments	Survey Conducted	Alpha*
Personal Money Management Profile (PMMP)	1986-87 first class period N=161	39 items .82
Financial Locus of Control (FLOC)	1986-87 first or second class period N=161	24-item sub-scales .58 to .86
Financial Value System	1986-87 second class period N=88	15 items .67
Method of Payment	1985-85 before credit unit N=132	
Credit Survey	1986-87 N=159	

*Cronbach alpha to examine internal consistency. The FLOC has subscales: internality .86, externality .58, success .81 and failure .68.

The first three instruments form part of a broader study of personal money management. The PMMP includes resource adequacy items from the study by Rowland, Dodder and Nickols (1985 cited earlier. Items were selected from the PMMP to examine in a college student population some characteristics which the review of general credit literature had associated with credit use and debt. The Financial Value System consists of 3-item scales based on Price's (1969) research. Both of these instruments consisted of 5-point Likert scales. FLOC is a Financial Locus of Control scale developed by the author, but based on work of Lefcourt et al. (1979). It requires the respondent to rank the importance of internal attributions (knowledge, ability and effort) and external attributions (luck, economic and political conditions and other people) for success and failure in four economic tasks. Scores for the sub-scales are additive. The credit surveys were composed of multiple choice and open-ended questions.

FINDINGS

Sample characteristics

Sample characteristics are reported only for the 69 males and the 92 females in 1986-87 classes who responded to the first two instruments, because the major statistical analysis dealt with their responses. Eighty eight of them had also been given the Financial Value System instrument. Seventy four percent were between the ages of 21 and 30, and 24% were under 20 years of age. They represented a wide range of majors; approximately 39% were classified as enrolled in business, finance, management and consumer majors and the remaining 61% were from a wide variety of other majors. The most common living arrangement was sharing a house or apartment with peers (34%) followed by group housing (26%) living with parents (24%) running a household by themselves or with a spouse (9%). While only one student described debt level as "over my head," 23.6% felt uncomfortable with their debt; 47.2% had "not very much" or "very little" debt; 28.6% had no debt.

Credit Practices

The two credit surveys are descriptive of credit practices. Over half of the 1985-86 students had bank credit cards, about 1/3 had gas cards and about 1/3 had phone cards. The 1986-87 credit survey revealed that bank cards were still the most frequent. In 1985-86 forty three percent student loans, 15.8% had auto loans and 13.6% had other installment loans. The study conducted the following year indicated lower use of student loans (25.6%), possibly because of the tighter rules for student loans at that time; also, the number with auto loans had increased to 21%, possibly because of the very low interest rates being advertised by the car manufacturers. Eleven percent of the students in 1986-87 reported using overdraft accounts, which probably reflects the fact that 63% held debit cards. Credit cards had been acquired and held by students in different ways: 53.2 in their own names, 13.5 as joint accounts while 13.5% used parents' cards. Six percent had established savings accounts as a condition for receiving a credit card and 3.6% secured cards as part of a package of services. Nearly 60% expressed preference for making payments of amounts between $10 and $20 with cash and about a third preferred check. Only 5 to 7% indicated credit card and less than 1% indicated preference for payment by debit card. For ordering tickets and catalog items 59% preferred check, 29% credit card, 4.5% cash and 4.5% money order. Slightly over half said they almost always paid off the entire balance before due date while about a third often paid the minimum balance. Over a third of the students owed less that $100 on all credit cards, another 25% owed between $100 and $300. At the other extreme were over 3% who owed $1000 or more.

Fifty percent reported that they had had credit refused at some time and 67% of these said that they knew why they had been refused. Less that 1% had ever asked to see their credit records.

Reasons for Using or Not Using Credit Cards

In response to open-ended questions asking those who used credit cards to give their reasons and those who did not to do likewise, 1986-87 students ranked as major reasons for using credit cards: convenience, easy to buy when don't have cash, and to establish a good credit rating. Reasons for not using credit ranked: too much temptation to spend, don't qualify, prefer using cash, no need to do so, and don't want to pay interest charges.

Outputs of Use of Credit

Since the control of money is a general goal of the money manager, the effect of use of credit was examined in the 1985-86 study, with mixed results. Over 39% felt that use of credit cards had greatly increased or somewhat increased control of their money and 24% felt that it had decreased their control, but about a third did not know or did not respond to this item. Eighty eight percent expressed satisfaction with use of credit cards. But 28% had experienced problems with credit cards. Of those who reported problems, only 42.8% said the problems had been resolved. This low rate of problem solving might be partially explained by the types of problems they listed. In rank order the problems were: can't control spending, credit errors, lost or stolen cards, credit limit too low, difficulty using parents' card.

Gender Comparisons

Mean scores for males and females on the items selected from the three general money management instruments are reported in Table 2. Differences were noted in only 8 of the 31 variables. Notably, males were more likely

TABLE 2. Items, Means, Standard Deviations, t-tests by Sex

ITEM	Male (N=69) $\bar{X}$	s.d.	Female (N=92) $\bar{X}$	s.d.	t-test
Regardless of your own income, which of the following best describes your economic condition? STATUS (1=affluent to 5=poor)	2.94	.79	2.92	.88	.13 (158)
My income covers my expenses. RES2	3.59	1.14	3.20	1.31	1.98 * (158)
I have adequate credit to meet my needs. RES3	4.09	.97	3.74	1.25	1.99 * (158)
Relevant to your present income, how deeply in debt are you? DEBT (1=over my head to 5=not at all)	3.38	1.09	3.58	1.21	-1.10 (159)
It is important to me right now to pinch pennies. PRI8	3.12	1.29	3.38	1.28	-1.28 (158)
It is important to me right now to juggle funds so that I can have cash available when big payments are due PRI7	3.62	1.09	3.73	1.12	-.63. (158)
Having personal control of my money is very important to me. PRI2	4.60	.69	4.51	.69	.83 (158)
I am "in control" of my spending and saving. CONTROL	3.75	1.10	3.33	1.21	2.25 * (157)
Self control is a problem for me. SC	2.44	1.13	2.45	1.14	- .02 (158)
I avoid the temptation to spend by carrying only the money I intend to spend. SC2	3.28	1.21	3.01	1.33	1.30 (159)
Carrying a credit card would cause me to spend money I might not otherwise spend. CC	2.86	1.44	2.97	1.4	- .48 (159)
I tend to buy things on impulse. IMPULS	3.04	1.14	3.11	1.3	- .32 (158)
I have a reputation as a big spender. SPENDER	2.71	1.05	2.45	1.24	1.43 (159)
I don't account to anyone concerning use of my money. ACCT	3.65	1.27	3.01	1.30	3.08 ** (159)
I anticipate that my financial situation will be better next year than it is now. FUTURE	4.10	1.02	3.86	1.05	1.47 (159)
Unexpected occurrences prevent me from reaching my goals in life. EVENT	3.12	.93	2.97	1.00	.96 (159)
I've run into financial problems: I need help. HELP	1.93	.91	2.30	1.26	-2.20 * (159)
Locus of Control					
Attribution to knowledge (8 items) KNOWLE (Lower scores are higher ranks)	22.28	8.80	23.34	8.62	.45 (159)
Attribution to luck (8 item scale) LUCK (Lower scores are higher ranks)	36.04	8.94	40.56	7.84	-3.36 *** (155)
Locus of Control (48 item scale) LOC (Higher scores more external)	99.48	21.82	100.34	23.03	-.24 (159)
Financial Value System	Male (n=38)		Female (n=50)		
Self-actualization SELFAT	3.87	.96	4.04	.83	- .89 (86)
Why worry about money? FAITHT	2.92	1.10	2.98	1.04	-.26 (86)
Status STATUST (3 items)	9.84	2.11	9.20	2.21	1.39 (87)
Self-indulgence INDULGT (3 items)	11.34	2.35	11.24	2.32	.20 (86)
Security SECURET) (3 items)	11.79	1.49	11.84	1.90	.14 (86)
Preparation					
My knowledge of facts needed to manage money PREP1 (1=poor to 5=very good)	3.37	.83	2.93	1.08	2.86 ** (157)
My ability to do the things and make the decisions necessary. PREP2 (1=poor to 5=very good)	3.71	.85	3.22	1.08	3.13 ** (158)
Putting enough effort into handling money. PREP3 (1=poor to 5=very good)	3.32	1.03	3.14	1.01	.85 (158)
Awareness of where to go to get answers to specific questions. PREP4 (1=poor to 5=very good)	2.72	1.03	2.43	1.25	1.53 (158)
Satisfaction					
I am satisfied with my economic condition. SATIS1	2.82	1.34	2.72	1.14	.54 (158)
I am satisfied with the way I handle my money. SATIS2	3.72	1.01	3.07	1.30	3.60 **** (158)

Terms in parentheses are degrees of freedom.
All items except those noted are scored: 1=not at all like me to 5=exactly like me.
*p<.05, two-tailed
**p<.01, two-tailed
***p<.001, two-tailed
****p<.0001, two-tailed

than females to perceive that they were "in control" of their spending and saving, that their income covered their expenses, that they had adequate credit to meet their needs and not to have to account to anyone concerning use of money. They were also likely to rank luck as a more important attribute than were the females. Females were more likely than males to indicate that they were having problems and needed help, but few indicated great need for help. Males rated their knowledge and their ability higher than did the females and expressed greater satisfaction with the way they handle their money. Both sexes had been more satisfied with how they handle their money than with their economic condition. Of particular interest is the fact that among the highest scoring items for both sexes were "I have adequate credit for my needs" and "having personal control of my money is important to me".

Freedom from debt

Pearson product moment correlations were used to examine the relationships of personal money management variables with three credit variables. Results are reported in Table 3. Freedom from debt was associated with feeling of being in control, satisfaction with economic condition and with personal handling of money. Freedom from debt was associated with two of the types of preparation: ability and effort. Freedom from debt was negatively correlated with low economic status, need to pinch pennies and juggle funds in order to meet large payments when due, recognizing self control as a problem, not being accountable to anyone, feelings that economic situation would be better next year and that events block goals. Freedom from debt was negatively associated with need for help and greater attribution to knowledge.

Having Adequate Credit

Having adequate credit to meet needs was associated with income covers expenses, placing a high priority on personal control of money, feeling of being in control and value of status. It was positively associated with all four measures of preparation, with the two satisfaction measures and with expectations that their economic situation would be better next year. Having adequate credit correlated negatively with lower economic status, self control a problem and recognition that carrying a credit card would encourage spending.

Credit Cards and Spending

"Carrying a credit card would cause me to spend more" was associated with lower economic status, need to pinch pennies, self control a problem, impulse buying, reputation as a big spender, feeling that events block goals, need for help, and value of self indulgence. Those who felt that carrying a credit card would cause more spending tended to show higher attribution to luck and to have more external

TABLE 3. Correlation of Items with Freedom from Debt, Adequacy of Credit, "Carrying a Credit Card would cause me to spend money I would not otherwise spend"

Code	Freedom from Debt	Adequacy of Credit	Credit Card Spending
STATUS	-.290 ****	-.212 **	.204 **
RES2	.065	.169 *	-.351 ****
RES3	-.023	-	-.162 *
DEBT	-	-.024	.102
PRI8	-.311 ****	.038	.217 **
PRI7	-.283 ****	.001	.122
PRI2	-.079	.214 **	-.118
CONTROL	.167 *	.222 **	-.259 ****
SC	-.200 **	-.155 *	.247 ***
SC2	.009	.017	-.015
SC3	-.10	-.162 *	-
IMPULS	-.12	-.068	.207 **
SPENDER	-.061	.008	.191 **
ACCT	-.187 **	.091	.116
FUTURE	-.167 *	.138 *	-.121
EVENT	-.142 *	-.104	.164 *
HELP	-.287 ****	-.122	.271 ****
Financial Value System			
SELFAT	.079	.154	-.009
FAITHT	-.023	-.078	-.097
STATUST	-.035	.214 *	-.03
INDULGT	.018	.026	.288 **
SECURET	.127	-.002	.000
Locus of Control			
KNOWL	-.144 *	-.104	.125
LUCK	-.025	-.053	.196 **
LOC	.071	.025	.186 **
Preparation			
PREP1	.010	.275 ****	-.242 ***
PREP2	.219 **	.166 *	-.334 ****
PREP3	.146 *	.191 **	-.159 *
PREP4	.036	.207 **	-.086
Satisfaction			
SATIS1	.284 ****	.146 *	-.146 *
SATIS2	.242 ***	.175 **	-.321 ****

The Value items, SELFAT to SECURET, were not administered to all students.

* p<.05, 1-tailed
** p<.01, 1-tailed
*** p<.001, 1-tailed
**** p<.001, 1-tailed

Total Locus of Control scores. Negative associations were found with: income covers expenses, adequate credit, feeling of being in control, levels of knowledge, ability and effort, and with both of the satisfaction measures.

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

College students are deeply involved in use of both credit cards and instalment loans, but many of them have been refused credit at some time. Most feel that they now have adequate credit to meet their needs and very few are currently deeply in debt. A large percentage of students carry student loans and/or auto loans, so must be prepared to deal with the payments when they get out of school.

There is a tendency for males to show higher confidence in their knowledge and ability to manage money and also to be more satisfied with their handling of money than females. This may reflect the earlier home socialization and job experience of males and the fear of math on the part of some females. Financial education should form a part of the education of more females.

The findings that freedom from debt was not related to resource adequacy, locus of control and the value of security may have resulted from the fact that current debt and student loans were not distinguished. Four types of preparation for financial management were considered because of their different implications for self-help. Ability and effort were related to all 3 measures. While ability is a more stable individual caracteristic, an individual can vary the amount of effort applied to a task. This research found that students associated only levels of ability and effort with debt level, while they also associated knowledge with the other two variables. Awareness of where to go for answers to specific questions appeared relevant only to getting and maintaining adequate credit. The research supported earlier findings that those who claimed less knowledge were apparently more cautious about debt.

The value of self-indulgence and external LOC orientation were related to the tendency to spend more when carrying a credit card. The value of status was related to having adequate credit. The value of security did not prove to be related to freedom from debt.

College finance classes offer an opportunity not only to teach factual economic information, but to help students become aware of their attitudes and habits of spending and saving, along with the potential consequences. For students who are having money problems, as well as for those who want to improve their management, an analysis of whether they have accepted the idea that they just don't have ability in this area or the idea that their problems grow out of lack of knowledge or effort could be a valuable aid in designing appropriate intervention methods.

This study found that students in finance classes express a strong desire to be in control of their money and most feel they are in control. They recognize a need to control impulsive behavior. Some avoid temptation to spend by not carrying money or credit cards. Positive responses by students to the item, "Carrying a credit card would cause me to spend money I might not otherwise spend" were negatively related to most of the variables describing control attitudes and behavior and positively related to the value of self-indulgence, attribution of behavior to luck and to more external locus of control. It was not related to debt level, possibly because the measurement of freedom from debt did not distinguish between current debt and student loans.

In Personal Finance classes students are introduced to personal financial records and budgetting. It is useful to show and explain the effect of different ways of recording credit transactions (Garman, Eckert and Forgue 1985, p.71-72 for example). This research would also indicate that there may be need for greater emphasis on credit rating and reporting practices and on where this type of information may be obtained. Also, their plans for repaying student loans should also be considered.

While earlier research has generally focused on credit behavior of established households, this research has recognized the college level consumers of financial education as a group worthy of more attention. The subjects of this research may not represent the general population of college students but do represent those who are availing themselves of the opportunity to improve their knowledge of handling money.

REFERENCES

Churaman, Charlotte V. (1984), "EFTS and Consumer Control of money," *The Home Economics Research Journal* 13 (No. 2: December): 192-205.

________(1988), "Attribution of Internal and External Control in Success and Failure with Personal Finance," Proceedings of 17th Annual Southeastern Regional Family Economics/Home Management Conference: 163-172.

Courtless, Joan C. (1971), "The Effect of Consumer Credit on Food Expenditures," *Family Economics Review*, (March): 22-24.

Danes, Sharon M. and Tahira K. Hira (1986), "Knowledge, Attitudes and Practices in the Use of Credit," *Proceedings of 32nd. Annual Conference of the American Council on Consumer Interests*, Karen P. Schnittgrund (ed.). 1986, 254-260.

Dessart, W. C. A. M. and A. A. A. Kuyler (1986), "The Nature, Extent, Causes and Consequences of Problematic Debt Situations," *Journal of Consumer Policy*, 9 (No.3; September) 311-334.

Dunkelberg, William and Robert W. Johnson (1975), "EFTS and Consumer Credit," Working Paper No. 2, Credit Research Center, Graduate School of Industrial Administration, Purdue University, West Lafayette, Indiana.

Feinberg, Richard A. (1986), "Credit Cards as Spending Facilitating Stimuli: A Conditioning Interpretation," *Journal of Consumer Research*, 13 (No. 3; December): 348-356.

Garman, E. Thomas, Sidney W. Eckart and Raymond E. Forgue (1985), "Budgetting: A Major Tool of Financial Planning," Ch. 3 in *Personal Finance*, Boston, Mass.: Houghton Mifflin Co.: 52-75.

Greninger, Sue Alexander, (1986), "Discussion of Three Research Papers on Consumer Credit," in *Proceedings of 32nd Annual Conference of American Council on Consumer Interests*, Karen T. Schnittgrund (ed.) 1985: 272-273.

Hanson, Janet S. (1986), "Student Loans; Are They Over-burdening a Generation?" study under contract with Joint Economic Commission of U. S. Congress, 1986 (December) 74 pages.

Hira, Tahira K. (1986), "Financial Management Practices of Two-Income Households, *Proceedings of 15th Annual Conference of the Southeastern Regional Association of Family Economics-Home Management*, Grace L. Pyles (ed.) 1986: 57-62.

________(1987) "Management Practices Influencing Household Asset Ownership," *Journal of Consumer Studies and Home Economics*, 11 (No. 2; June): 183-194.

Hirschman, Elizabeth C. (1979), "Differences in Consumer Purchase Behavior by Credit Card Payment Systems," *Journal of Consumer Research*, 6 (No. 1; June): 58-66.

Lefcourt, Herbert M, C. L. Von Baeyer, E. E. Ware, and D. J. Cox (1979), "The Multidimensional-Multiattributional Causality Scales: The Development of a Goal Specific Locus of Control Scale," *Canadian Journal of Behavioral Science*, 11 (4):286-304.

Linck, Sandra (1982), "Exploratory Study of Value Orientation and Achievement of Financial Goals," (Unpublished Ed. D. Dissertation) University Park: The Pennsylvania State University.

Marlowe, Julia (1981), "Financial Variables Associated with Successful Debt Liquidation," *Home Economics Research Journal*, 9 (No. 4; June): 382-389.

McAlister, Ray and Jean Kinsey (1979), "Impact of Perceived Cost and Household Characteristics on Credit Cards Held," in *Proceedings of 25th Annual Conference of American Council on Consumer Interests*, Noreen M. Ackerman (ed.) 1979: 166-176.

Painter, Joseph G., Jr. and Jill Rader Hayes (1982), "Economic Perceptions and Attitudes: The influence of Self-fulfillment Orientation," *Proceedings of 28th Annual Conference of American Council on Consumer Interests*: 252-255.

Noyes, Marilyn B. (1982), "Employed vs. Non-employed Wives: A Comparison of Credit Behavior," (Unpublished Ph. D. Dissertaion) Boulder: Colorado State University.

Price, Dorothy Z. (1968), "A Technique for Analyzing the Economic Value System," *Journal of Marriage and the Family*, 30 (No. 30; August): 467-472.

Roland, Virginia T., Richard A. Dodder, Sharon Y. Nickols (1985), "Perceived Adequacy of Resources: Development of a Scale," *Home Economics Research Journal*, 14 (No. 2: December): 218-225.

Ryan, Mary A. and E. Scott Maynes (1969), "The Excessively Indebted: Who and Why," *The Journal of Consumer Affairs*, 3 (No. 2; Winter): 107-126.

CONSUMER DEBT: MEASURING THE ABILITY TO REPAY

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Are consumers over extended? Some using total dollars outstanding or comparing debt to income say consumers are over burdened. Others citing debt to asset ratios find consumers have a reasonable amount of debt. This paper analyzes each of the popular measures and then suggests that the ratio of monthly debt service payments to a net income figure is the best approach.

> "There is no consumer debt problem" (Silvia, 87a:34).

> "'The consumer is definitely not in a position to continue to borrow like he is'" (Morris, 87:39).

Which observer of consumer indebtedness is correct? The answer largely depends on how consumer debt is measured. Total debt measured in dollars is one measure. Some type of ratio measure is also popular. The ratios normally compare total debt outstanding to consumer financial assets or personal disposable income or debt service payments to disposable income. We discuss each of the approaches at both the macro economic and micro economic levels in the following sections. Our conclusion is that at both levels of analysis debt to income ratios are preferred over other types of debt usage measures.

MACRO ANALYSIS OF DEBT SERVICE CAPACITY

Total Debt Measured in Dollars

There is no question that total consumer debt has grown. Between 1980 and 1985, household debt grew to $2.4 trillion, a 64 percent rise (Wilson, et al., 1986). But this growth needs to be compared to the growth in the ability to pay. Just as inflation will have had an impact on the growth in dollar debt, it will also have had an impact on financial assets and income, both being possible mechanisms for repaying debt. Demographic changes have also had an impact on outstanding debt. Baby boomers have moved into their mid-20s to early 40s, and the 25- to 44-year old group is the heaviest borrower of all age groups (Sternlieb and Hughes, 1987).

Also, all consumer debt is not considered credit by consumers. Based on the Survey of Consumer Finances, nearly two-thirds of all families have some type of credit card. However, nearly 50 percent of these families used the credit card as a transaction device, meaning they paid off the entire account balance each billing period (Canner and Cyrnak, 1985). Thus, even though all credit card charges are treated as debt in government reports, many families see it as a short-term replacement for cash and pay off the debt immediately.

In summary, dollar debt outstanding grew because of inflation and the growth of the group most likely to borrow. This growth must be measured in relation to ability to pay.

Debt to Financial Assets

Financial assets can be used to pay off debt obligations. Also, total debt is carried on a consumer's balance sheet as a liability (it is not completely repaid in one year), and thus, it should be compared to the consumer's assets (Silvia, 1987a, 1987b).

In the 1980s financial assets have grown faster than household debt (72 versus 64 percent growth). Also, with a macro analysis the same people who hold the assets also hold the debt, namely both assets and debt are concentrated in the upper income strata (Wilson et al., 1986).[2] Since 1982, the ratio of assets to debt has increased from about 2 to 1 to 2.3 to 1. However, it still is below the 1971 level of about 3.2 to 1 (Silvia, 1987a). While the ratio of assets to debt has been improving, the composition of financial assets has been changing.

More and more of a household's assets are represented by claims to relatively illiquid pension funds. In the first five years of the 1980s, pension assets as a percent of total financial assets increased from 19 to 22 percent. The rising stock market also led to a large jump in household assets. However, the more accessible and liquid deposits at financial institutions actually declined by a little over one percent, 36 to 34.6 percent (Wilson et al., 1986). It should also be noted that although debt and assets are concentrated in the higher income strata, this does not mean that the same high user of debt household has a corresponding high level of financial assets. Heavy borrowers may not be heavy owners of financial assets.

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[2] In 1983, thirty two percent of the households in the lowest income quintile were in debt. This is in contrast to the highest quintile where 72 percent were in debt. The amount of debt held by these two quintiles is also informative. The lowest quintile held a total of 5 percent of the total debt in the survey while the highest held nearly 46 percent (Luckett and August, 1985).

Financial assets, especially pension funds and investments in growth-oriented equities, do not produce current income to meet debt service payments. Certainly some pension assets could be "cashed in," most frequently with a substantial penalty. Equities could also be sold, hopefully not in a declining or low price market. But it is likely, before they retire, most consumers do not view pension assets as a source of funds for repaying debt obligations. Thus, while it is true that total debt is a balance sheet item, it is likely that most borrowers' source of funds for repaying this debt is coming from current (at the time of payment) disposable income and not from the sale of financial assets.

Debt and Debt Service to Personal Income

The ratio of total household debt to disposable personal income rose from .58 in 1975 to .74 at the end of 1985. Generally most of the change in the ratio was due to mortgage obligations. The mortgage ratio went from .40 to .50, while the ratio of installment debt rose from .15 to .19 (Paquette, 1986).[3] However, this ratio also gives a distorted image of the consumer's ability to repay. Consumers do not repay all of their outstanding debt each year. They repay part of it. What is most important is the ability of the borrower to make the yearly debt service payments, repayment of each month's interest and principal (Luckett and August, 1985). When looked at from this perspective the consumer obligations are not as burdensome.

The ratio of debt service to disposable personal income grew by 8 percent between 1975 and the beginning of 1986, while total debt to income grew by 22 percent. Why was there such a large difference in growth rates? There are two parts to the answer: increases in loan extensions and lengthening of maturities.

As new loans are issued, in the short-run, debt will increase faster than debt service payments. As old loans are paid back the principal amount outstanding declines while the monthly payment remains the same for the life of the loan. As new loans are taken out, the total debt contracted is added to a smaller base than debt service payments. In Paquette's (1986) analysis, for a new loan, after the first six months debt outstanding increased 33 percent while debt service increased 17 percent.

The lengthening of loan maturities will also in the early period of the loan lead to lower debt service requirements but increase total debt outstanding. If the interest rate stays the same, a 48-month loan replacing a 36-month obligation will lead to lower but more monthly payments. Also, with the longer payback the principal is repaid at a slower rate leading to debt being outstanding for a longer time and thus a slower repayment of "old" loans. Again using Paquette's (1986) analysis, if maturities would have stayed the same instead of lengthening in the 1975 to 1986 period, the installment debt ratio, total debt to disposable income (there was little change in the length of mortgages) would have only increased by eight percent versus the actual 24 percent. Again, the difference is due to a slower repayment of principal with longer maturities. The debt service payment ratio (debt repayments to disposable income), on the other hand, would have increased by three percent instead of falling by four percent.

There is at least one situation where the debt service ratio will increase faster than the debt ratio. If interest rates rise, either nominal or real, debt service payments will rise faster than total debt. The fundamental reason is that more of the monthly payment represents interest and less a repayment of principal. Thus, the large rise in the payment is due to paying back more interest than paying back principal.

MICRO ANALYSIS OF DEBT SERVICE CAPACITY

The discussion to this point has examined consumer debt load from a macro prospective. As has been pointed out there is a good possibility that an analysis of subsets of the larger group may ultimately result in a quite different scenario than the one painted. For example, within the upper income group those with high debt may not be those with high assets. If there is debate on the proper measurement of consumer debt at the macro level, the situation at the micro level is perhaps worse. One problem is the lack of uniformity in the analysis of a family's financial situation.

Debt to Financial Assets

A number of authors have proposed balance sheet ratios to measure the consumer debt load. The Exhibit gives the relevant consumer debt ratios and identifies authors recommending the use of each. Both Griffith (1985) and Gitman (1984) developed liquidity ratios (Exhibit, A. 1-5). The ratios contrast liquid assets to some measure of debt. Measures of debt include total debt, current debt, non-mortgage debt, and short term debt plus 12 months payment on other debt. Others (Barngrover *et al*., 1981, Bailard *et al*., 1986, Griffith, 1985) have proposed comparing debt to net worth or total assets (Exhibit, A. 7-10). Some modifications to this ratio include deleting securities from the asset component (Barngrover *et al*., 1981), while others suggest deleting both the home mortgage from the liability number and the value of the home from the asset base (Bailard *et al*., 1986).

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[3] Household debt is made up of mortgage and consumer debt. Mortgage debt uses housing as collateral for a loan. Consumer debt is divided into installment obligations (the borrower can repay in two or more payments) and noninstallment debt. Here the total debt must be repaid in one payment. Travel and entertainment cards are a good example of this type of consumer borrowing (Pearce, 1985).

EXHIBIT. Relevant Consumer Debt Ratios

A. Balance Sheet Ratios:

1. Liquid Assets/Total Current Debt (Gitman, 1984)
2. Liquid Assets/Short Term Debt + 12 Months Payment on Other Debt (Griffith, 1985)
3. Liquid Assets/Non-mortgage Debt (Griffith, 1985)
4. Liquid Assets/Total Debt (Griffith, 1985)
5. Liquid and Other Financial Assets/Short Term Debt + 12 Months Payment on Other Debt (Griffith, 1985)
6. Liquid Assets and Other Financial Assets/Total Debt (Griffith, 1985)
7. Total Debt/Net Worth (Griffith, 1985, Apilado and Morehart, 1980)
8. Assets - Securities/Liabilities (Barngrover *et al*., 1981)
9. Non-Mortgage Debt/Net Worth - Market Value of House (Bailard *et al*., 1986)
10. Non-Mortgage Debt/Net Worth (Griffith, 1985)

B. Debt/Income Ratios:

1. Total Household Debt/Total Yearly Disposable Personal Income (Apilado and Morehart, 1980)

C. Repayment/Income Ratios:

1. Monthly Debt Payments - Mortgage Payments/Monthly Disposable Income (Apilado and Morehart, 1980, Bailard *et al*., 1986)
   where: Disposable income = Gross income less taxes
2. Monthly Debt Payments/Take-home Pay (Amling and Droms, 1982)
3. Monthly Debt Payments - Home Mortgage Payments/Monthly Spendable Income (Lang and Gillespie, 1981)
   where: Spendable income = gross income less wage or salary deductions
4. Monthly Debt Payments/Discretionary Income
   where: Monthly debt payments = all contractual payments on debt obligations including home mortgage payments. Excluded are payments made on revolving accounts that are repaid within the free period.
   Discretionary income = disposable income minus all fixed and variable expenses necessary for household maintenance, excluding contractual debt payments.

The basic problem with balance sheet ratios is twofold. First, total debt is normally used and not the amount of debt that needs to be repaid within one year. The other shortcoming is that consumers rarely plan on liquidating assets, especially non-financial assets, to pay off debt. Of course the liquidity ratios do overcome some of these problems. However, the cash and near-cash stock of the family is needed to pay more than just maturing debt obligations.

In actuality consumers plan on making debt payments out of income flows. Thus, the capacity to handle debt should be based on monthly or yearly debt repayments compared to the amount of income available to make these payments. The relevant ratios will contain some debt number as the numerator and some income number as the denominator.

Debt and Debt Service to Personal Income

Total Debt to Income. It is necessary to adjust the time frame for flows of income to the time frame for flows of debt service. Thus, it is inappropriate to look at total debt to yearly income in assessing consumer debt capacity (Apilado and Morehart, 1980), because the individual does not repay total debt within one year (Exhibit, B. 1).

Monthly Debt Payment to Disposable Personal Income. The most frequently cited funds flow ratio for measuring consumer capacity to carry debt is the debt payment to disposable income ratio (Exhibit, C. 1) recommended by Bailard *et al*. (1986). Disposable income is defined by these authors as income after payment of taxes and social security. This is the standard economic definition of disposable income.

One problem with using this ratio is that it assumes that the individual has control over all income funds other than tax payments. While this may be true in the long-run, it is frequently not true in the short-run. A consumer may be able to adjust contributions to charity, drop insurance coverage, or change contributions to retirement plans. However, employers may restrict such changes to certain time periods, greatly reducing the control by the individual. Thus, the use of total disposable income in evaluating debt repayment ability, has some of the same inherent problems as the use of assets. While in the long-run the individual may eliminate these payments and free funds for debt payment, in the short-run the funds are not available.

Debt Service to Take-Home Pay. One might change the above formula by adjusting the disposable income figure. Van Arsdale (1982) subdivides deductions into mandatory, voluntary and conditional. She then reduces disposable income by the amount of mandatory and conditional expenses when calculating a debt proration formula.

An example of mandatory expenses might be payroll deductions, over which the consumer has no control. Payments for insurance, which are mandatory if the individual is to participate in group coverage, are an example of this type of deduction. Amling and Droms (1982) make these adjustments to income in the comparison of monthly installment payments as a percent of take-home pay (Exhibit, C. 2).

Total Monthly Debt Payment to Total Monthly Discretionary Income. Generally, for the initial analysis, the income figure to be used as the denominator for the debt repayment ratio should be disposable income minus all fixed and variable expenses excluding contractual debt payments. Lang and Gillespie (1981) suggest comparing total regular monthly debt payment to monthly spendable income (Exhibit, C. 3). One problem with their ratio is the exclusion of mortgage debt payments from total regular monthly debt payments.

We propose that the numerator in the formula should be total monthly debt payments including mortgage payments (Exhibit, C. 4). Monthly debt payments would include all payments that include a finance charge. Excluded would be payments on credit cards used for convenience where all charges are repaid during the interest-free period. Thus mortgage payments, installment payments, revolving credit card payments, as well as other non-revolving credit payments not fully repaid within the month would be included.

Mortgage payments are included because they are fixed debt repayment charges that must be paid just as car loans or other installment payments must be met. Mortgage payments have been excluded by some because they were treated as a monthly living expense that was probably building equity at a faster rate than the property was depreciating. The high rates of interest paid on mortgages in the past 10 years however, and markets with declining real estate values, have resulted in many families seeing little equity growth in their property. Mortgage payments that exceed 30 to 40 percent of take-home pay significantly affect the safe limit of other credit that can be assumed by the individual. Thus it is this total debt payment that is crucial. If the mortgage is held out separately then the percentage of other debt that may be safely carried should be adjusted downward. While some authors indicate that many special circumstances may affect the individual's debt capacity none include mortgage payments in the calculation of a debt to income ratio. Another reason given for excluding mortgage payments from total payments is to make it possible to compare non-mortgage credit users with mortgage holders (Lang and Gillespie, 1981). This seems unrealistic when one is attempting to establish an individual's debt capacity ratio.

The denominator in this formula is discretionary income. This is disposable, take-home income, minus all fixed and variable expenses necessary for household maintenance, excluding contractual debt repayments. People must spend money on food, utilities, transportation and other normal living expenses. Using discretionary income takes into account these expenditures.

The resulting ratio becomes monthly debt including mortgage payments divided by monthly discretionary income as defined in this paper (Exhibit, C. 4). The resulting number is the starting point for analysis. The analysis may be used to determine the consumer's capacity for assuming more debt or for determining that the current debt load is excessive.

This ratio will give a picture of debt repayment ability without modifying lifestyle or living and expenditure patterns. If this ratio appears to provide inadequate coverage of current debt payments, then an analysis of possible places for adjustment is required. Either income needs to be enlarged (earn more) and/or expenditures reduced (spend less). Adjustments to debt are also possible. In the short-run, seeking extended debt repayment terms is a possibility. In the long-run, a reduction in taking on new debt is a strategy (Van Arsdale, 1982, Lang and Gillespie, 1981).

Monthly vs. Annual Income. Another important consideration is whether to use a monthly income or annual income figure in calculating consumer credit capacity. Where income is stable, monthly income figures should be used. Where income is erratic, it is probably advisable to make the analysis on an annual rather than monthly basis. In the latter case it is generally more difficult to develop a safe debt limit. The uncertainty of income flows makes the prediction of funds available for monthly debt payment difficult at best. Nevertheless, it is just as vital to evaluate the economic condition of the individual, or family, with erratic income as it is to evaluate the condition of those with regular income receipts.[4]

It is possible, of course, that some of the consumer's debt will be established with longer than monthly terms. This may be particularly true for farm families. However, most revolving and installment debt is created on a monthly installment payment basis.

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[4] The whole issue of variability of income needs to be addressed. For any number of reasons income may be erratic or even cease. Erratic income may be due to seasonal labor, the receiving of bonuses, expense reimbursements, or incentive pay. Income may cease due to temporary unemployment, retirement, or illness. The issue then becomes how will the debts be repaid. At this point an asset analysis may be necessary. Namely the "cashing in" of assets or borrowing from "friendly" lenders such as relatives and friends may be required.

SUMMARY AND CONCLUSIONS

Contrasting debt service to income appears to be the best comparison in measuring the consumer's ability to handle debt. This is the case in both the macro as well as micro analyses of indebtedness. Consumers take on debt with the expectation they will repay it out of current income. Rarely do they plan on selling assets to make the repayments. Even if they did plan on selling assets it is likely they would not be able to obtain book, balance sheet, value if they were forced into a distressed sale. This would be especially true for non-financial assets. When using the debt to income ratios both the debt and income figures need to be modified. First, the numerator is monthly debt service and not total debt owed. Consumers do not pay back all their debt in one month or year. Thus, only that amount of debt due during the period should be considered. Second, gross income needs to be adjusted. Disposable income after taxes should be computed. Next, income after mandatory expenses should be obtained. Finally, the consumer's living expenses must also be subtracted from the denominator. The resulting ratio is total monthly (or analysis period) debt service payments including mortgage to monthly discretionary income.

Consumers may or may not be taking on too much debt depending on how the analysis is undertaken. We have suggested that comparing debt service to income is the preferred method of performing this analysis. Total dollar debt is meaningless unless compared to the ability to repay. Debt to some asset number is also not optimum since few consumers plan on selling assets to repay their debt. Also consumers do not re-pay all their debts at one time. Thus the ratios of choice contain monthly debt repayment as a numerator and monthly discretionary income as a denominator. We further suggest that income be adjusted downward to reflect a consumer's required living expenses.

This analysis is only the beginning. Other researchers need to develop numeric guidelines as to when the consumer is approaching "more month than money." Numerous authors have presented guidelines, but it appears few of these guidelines are based on an empirical analysis of the ability to repay. Rather they are convenient and historical heuristics. Prather and Hanna (1987) have begun the work of developing numeric guidelines for assessing the financial strength and well-being of families. They developed norms for 16 balance sheet ratios using data from the 1983 Survey of Consumer Finances. This work needs to be expanded to include income and expense data.

REFERENCES

Amling, Frederick, and William G. Droms (1982), Personal Financial Management, Homewood: Richard D. Irwin, Inc., 173-175.

Apilado, Vincent P., and Thomas B. Morehart (1980), Personal Financial Management, St. Paul: West Publishing Co., 357-361.

Bailard, Thomas E., David L. Biehl, and Ronald W. Kaiser (1986), Personal Money Management, 5th edition, Chicago: Science Research Associates, Inc., 282-283.

Barngrover, Charles L., Timothy E. Johnson, and Susan W. Mulgrew (1981), Personal Finance, Columbus, Ohio: Grid Publishing Inc., 86-89.

Canner, Glenn R. and Anthony W. Cyrnak (1985), "Recent Developments in Credit Card Holding and Use Patterns Among U.S. Families," Journal of Retail Banking, 3: 63-73.

Gitman, Lawrence J. (1984), Personal Finance, Chicago: The Dryden Press, 55.

Griffith, Reynolds. (1985), "Personal Financial Statement Analysis: A Modest Beginning," ed. Ginny Langrehr, Financial Planning and Counseling A Career Frontier, Proceedings The Association for Financial Counseling and Planning Education, 123-131.

Lang, Larry R. and Thomas H. Gillespie (1981), Strategy for Personal Finance, New York: McGraw Hill, 200-205.

Luckett, Charles A. and James D. August (1985), "The Growth of Consumer Debt," Federal Reserve Bulletin, 71 (June): 389-402.

Morris, Betsy (1987), "Eager to Lend: Banks and Thrifts Aggressively Pitch Personal Loans," Wall Street Journal, 9 (September): 39.

Paquette, Lynn (1986), "Estimating Household Debt Service Payments," Federal Reserve Bulletin of New York - Quarterly Review, (Summer): 12-23.

Pearce, Douglas K. (1985), "Rising Household Debt in Perspective," Economic Review, The Federal Reserve Bank of Kansas City, (July-August): 3-17.

Prather, Carole G., and Sherman Hanna (1987), "Ratio Analysis of Personal Financial Statements: Household Norms," ed. Mary Ellen Edmondson and Karen L. Perch, Accenting Our Focus On Competency: Professional Enrichment, Proceedings The Association for Financial Counseling and Planning Education, 80-89.

Silvia, John (1987a), "There is No Consumer Debt Problem," Wall Street Journal, (April 14): 32.

Silvia, John E. (1987b), "Consumer Debt: Burden or Boon," Banker's Monthly, 104 (April): 16.

Sternlieb, George and James W. Hughes (1987), "The New Mortgage Market," American Demographics, (April) 26-31.

Wilson, John F., Elizabeth M. Folger, James F. Freund, and Guido E. van der Van (1986), "Major Borrowing and Lending Trends in the U.S. Economy 1981-85," Federal Reserve Bulletin, (August): 511-524.

Van Arsdale, Mary G. (1982), A Guide to Family Financial Counseling, Homewood: Dow Jones-Irwin, 132-133, 237-238.

CONSUMER CREDIT--DISCUSSION

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All 3 papers focus on consumer use of credit - determinants of consumer credit rationing, college student use of credit, and alternative specifications of consumer debt as an indicator of ability to repay.

CREDIT RATIONING AS A CONSTRAINT ON THE FINANCIAL FUTURE OF FAMILY

This paper begins with an excellent conceptual approach. "If rationed status could be predicted using household debt characteristics, households could manage their finances in the present in order to better assured of obtaining credit they might desire in the future." The author selects variables which with but exception, "total credit line", can be controlled by the household. If empirical estimation can identify those measures which are important to lenders, the value to consumer educators and counselors would be significant.

Unfortunately, as is often the case with models with real-world value, the estimation results, as the author notes, are disappointing. Perhaps, a logistic regression model merging all data with rationed - non-rationed as the dependent variable would improve the findings. This would allow the author to identify the effect of family status on the probability of rationing and perhaps allow the author to draw conclusions related to credit discrimination.

COLLEGE STUDENTS USE OF CREDIT

This paper addresses some important issues related to college students and their views about credit usage. As a researcher with often limited funding, I applaud the use of subjects who can be found in your own classroom backyard. However, I also believe that the use of college students as subjects must be done with care to prevent serious sample selection bias. This research contains two potential sources of trouble on this score: first, the respondents selected were members of a personal finance class and thus may not be representative of the campus at large, much less all college students. Second, although the survey was administered before the credit unit, certainly students had been exposed to some principals of good money management earlier in the semester. This, too, makes them different from other students. This problem could be circumvented in future projects by using an experimental design - perhaps give the same survey before and after the credit unit, or give the class some treatment such as a film on the perils of overextension. The possibilities are endless and the results more generalizable.

Although knowledge of credit finance and legislation is discussed in the literature review, it is not tested in the survey. Rather students were asked to assess their knowledge of these aspects of credit. It has been my experience, as a teacher of personal finance, that students actually know far less about credit than they think they do.

The data analysis was limited to frequencies, t-tests and correlations. More analysis should have been done. One possible model would be a regression to identify factors leading to the probability of using credit or the level of debt currently outstanding - both student loan and other. As it stands, one doesn't come away feeling they have learned very much about college students' use of credit.

CONSUMER DEBT: MEASURING THE ABILITY TO REPAY

This paper represents an impressive attempt to deal with a most difficult problem - how should consumer debt be measured. The authors make some very interesting points about existing formulations and derive a measure of their own which is logical and maybe useful for empirical work.

In evaluating existing measures, the authors consider the ratio of debt to financial assets. Current indebtedness is unlikely to be repaid from long-term assets such as pension funds so perhaps, they conclude, a balance sheet approach is not appropriate. Yet, in extreme hardship, families with such assets are certainly in a better position than those with no long-term funds to tap.

Next, debt to income measurements are considered but the debate over whether to use monthly or total indebtness continues. The authors present a nice discussion of the impact on lengthening maturities on this measure. The authors state "There is at least one situation where the debt-service ratio will fall faster than the debt ratio. If interest rates rise, debt service payments will rise." That is true only for loans, like credit cards or variable rate loans, that have an interest rate which can fluctuate. Rates on fixed interest instruments will remain unaffected. Further, if rates rise too high, consumers may stop incurring new debt and repay existing debt, causing both debt service payments and total debt service to fall. Rising interest rates may trigger consumers' fears regarding recession and unemployment and they may attempt to preserve what they already have rather than increasing risk of financial failure by taking on additional debt.

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Finally, measurements of indebtedness related to income seem to be based upon an implicit assumption that this income stream will go on forever, or at least until the debt is repaid. If our concern is for overextension of credit, this should be noted and addressed. Perhaps, for example, it is emergency cash reserves or rich and generous relatives that make the difference.

DETERMINANTS OF ENERGY CONSERVATION ACTIVITIES

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This study uses a sample of 37,687 single family homeowners from the 1980 Annual Housing Survey to determine which variables influence the presence and addition of insulation. Age of the head, household income, presence of a child under 6, age of the house, regional location, presence of storm doors or windows, an attic or ceiling fan, and type of heat contribute significantly to distinguishing between housing units with and without insulation as well as between households who did or did not add insulation. Using these variables as discriminators, 74.2% of the households with insulation and 61.2% of the households who added insulation are correctly classified.

INTRODUCTION

Residential structures account for about 20 percent of the energy consumption in the United States. Opportunities exist to reduce energy consumption in housing without disrupting societal functions (Dillman 1977). Addition of insulation, use of energy saving appliances and clock thermostats as well as caulking and weatherstripping can enhance energy efficiency. Newly constructed dwellings can make use of passive and active solar design as well as earth sheltering more easily than adding these items to existing structures.

Much has been written about the need to improve energy conservation (Dillman 1981, Laquatra 1986, Hanna 1978). However, few studies using a national sample were located that focused on adoption of energy conservation measures (Williams 1979, Tremblay 1984, Niemeyer 1986). A major DOE effort focused on factors that influence energy consumption (Latta 1983).

This paper examines the factors which influence the use and addition of thermal insulation in owner occupied single family residences. A review of the literature suggested family, housing and energy related characteristics that would be relevant as discriminators.

PREVIOUS RESEARCH

Although Gladhart (1984) reported that family characteristics have little relation to conservation, other research, as indicated below suggests that household characteristics may be useful as discriminators. Household characteristics reviewed here include: income, education, age of family members, family size and length of occupancy.

Researchers (Cunningham and Lopreato 1977, Newman and Day 1975) seemed to agree that income is a strong predictor of energy consumption and energy conservation. Dillman et al. (1983) found that lower income households adjusted to higher energy prices by purchasing less of other items or making temporary adjustments, such as changing the temperature of the room. On the other hand, higher income households invested in more permanent conservation activities. Thus, the housing of lower income families is less energy efficient (Eichner and Morris 1984, Trienda & Aboramph 1981).

Thompson (1983) reported that "There is a large difference in average energy consumption and expenditures among households with different incomes. The highest income households use about 70% more energy than the lowest income group . . ." Their houses are about twice the size of the lowest income group and they have more appliances. However, for 3 years (1978, 1979, and 1980) higher income households lowered their energy consumption more than lower income households. Although lower income families tend to use less energy than higher income families, Newman and Day (1975) found that they spend a greater percentage of their income on energy.

Previous studies suggest that education is negatively related to conservation behavior (Heberlein and Warriner 1980) but positively related to consumption (Cramer et al. 1983).

Tyler et al., (1982) found that the homes of the elderly were energy efficient while Eichner and Morris (1984) found no relationship between age of the household head and energy conservation features. Johnson - Carroll, Brandt & Merfeld (1987) reported that the older the respondent the less likely was there to be a propensity for conservation alterations. At the other end of the age scale, Douthitt (1986) found that the presence of preschool children increase energy consumption.

Although Latta (1981) reported that the larger the household the greater the use of energy, Eichner and Morris (1984) found no relationship between size of household and energy conservation features. Johnson - Carroll et al., (1987) found that the larger the household size, the more energy-saving features were added to the house.

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The number of years the current household head had lived in the house was thought to be an influence on current conservation behavior. Gladhart (1984) reported that families work at conservation year after year and as a group get more efficient and effective in conserving.

The literature suggests that size of the housing unit and type of heat may influence energy conservation. Size of the housing unit has been related to energy consumption by Morrison et. al., (1978) and energy conservation by Johnson-Carroll et al., (1987).

A study of natural gas (NG) and liquid petroleum gas (LPG) users provides an indication of how households respond to price increases and the role that type of heating fuel could play in energy conservation (Ogus 1980). When the price of LP gas doubled and (NG) changed little, LPG households adopted and maintained energy conservation activities such as closing off a room and turning down the thermostat more. Furthermore, they were more likely to make permanent changes such as attic and wall insulation, adding storm windows and doors, caulking, and weatherstripping. Ogus (1980) concluded that a substantial economic incentive is required to create a significant and sustained energy conservation response. Latta (1981) also reported that households that use LPG tend to use less energy than households with the same characteristics that use natural gas. Thus, type of heating fuel may contribute to different energy conservation behavior.

DATA AND MODEL SPECIFICATION

The data for this paper were taken from the 1980 Annual Housing Survey tapes. The data were collected from mid - August 1980 through December 1980 by the Bureau of the Census for the Department of Housing and Urban Development. A survey instrument was used by interviewers to collect the data. Energy data were not collected on manufactured (mobile) homes.

Only homeowners were selected for study since tenants are not likely to undertake insulation energy conservation activities in which the majority of the benefits would accrue to the landlord. Therefore, the sample studied consists of 37,687 single family homeowners.

Discriminant analysis is used to determine which household, housing or energy related characteristics influence:

(1) the presence of insulation in a house and
(2) the addition of insulation to the attic, walls or floor in the 12 months prior to the survey.

Both of these variables are measured as either 0, no insulation or none added, or 1 insulation or insulation added.

Discriminant analysis is a statistical technique which maybe used to classify cases into a particular group based on the information carried by the discriminating variables (Klecka 1980). The discriminant function can be expressed as follows:

$$C = b_0 + b_1 x_1 , + b_2 x_2 + \ldots b_k x_k$$

where C = the discriminant score

$x_1 , x_2 , \ldots , x_k$ represent the value of the predictor variables

$b_1 , b_2 , \ldots , b_k$ are the weights associated with each of the respective predictor variables

For the discriminant analysis, the sample was split randomly. One group, the developmental sample, containing 95% of the households was used to obtain the discriminators that were significant (Klecka 1980). The results from this analysis were then validated on the other 5% of the sample to see how well they performed as discriminators.

The analysis was thus performed in three stages. First a stepwise procedure was used with all the variables discussed below as discriminators. This produces an optimal set of discriminating variables (Klecka 1980). A variable had to be statistically significant at the .05 level to both enter and remain in the model. With a smaller sample size, a more moderate level of significance would have been chosen since the overall probability of rejecting at least one true null hypothesis is much larger than 5%. Second from the stepwise model, a smaller list of discriminators was then entered into a discriminant anaylsis model using the developmental sample. The results from this were then tested on the validation sample.

The following section describes the household, housing and energy related characteristics selected for use as discriminators and how the variables are measured.

Discriminators

Race and sex of the head were used as controlling variables. They are entered in the model as 0,1. Income is the sum of wage and salary income, public assistance and all other money income received for the 12 months prior to the survey. The discriminant analysis coefficient for income is reported in $100 units rather than $1.

Although better educated household heads have higher earnings and can thus afford larger houses and energy consuming appliances, it is hypothesized, despite Heberlein & Warriner, (1980), that better educated heads will undertake energy conservation activities.

Five levels of education were examined: (1) less than high school education, (2) a high school graduate, (3) some college, (4) a college graduate, and (5) post college or graduate work. These were entered in the stepwise discriminant analysis as 0, 1 with the group of high school graduates used as the omitted variable.

In this research, household size is measured as the number of persons living in the house.

Three measures related to age of family members are included in the present study: age of the head of the household and presence of a person 65 years of age or older. In addition, the presence of a child under 6 was included on the basis that a household with young children would consume more energy and thus have a higher demand for conservation. Age of the head is measured in years whereas the other two variables are individually specified as 0, 1 with 1 being presence of a person over 65 or under 6.

Three housing characteristics were examined: age of the house, measured in years; house size, measured by number of rooms; and value of the house which is the respondent's estimate of how much the property (house and lot) would sell for if it were for sale. It was thought that older houses would be less energy efficient than newer houses. It is expected that higher valued homes would use more energy; whether their owners would then opt for more energy conservation measures is unknown. Further square feet would obviously be more precise as a measure of house size but was not available on the data tape.

Types of heat considered here are: electricity, oil, gas, wood and LP gas. Since gas was the fuel used in the largest number of households, it was omitted as a discriminator. The other variables were entered as 0, 1 in the model with 1 being presence of that type of fuel. Natural gas has generally cost less than electricity, oil or LP gas so that households using these types of fuel may have a greater incentive to be energy conserving.

Households with other energy saving features were thought to be more likely to have insulation and less likely to add more insulation. Several energy saving features were considered: (1) whether a household had a ceiling or attic fan (2) whether a household used a window or portable fan rather than air conditioning; and (3) presence of storm doors and windows; and (4) presence of awnings.

Region of the country in which the house is located was used as a proxy for climatic conditions. Region was coded as 0 not in a given region or 1 in the region. The Northeast, Northcentral and Western regions were included in the discriminant analysis while the South was omitted. Obviously a more specific variable such as heating and cooling degree days would give precise rather than general results obtained by using region but such data were unavailable for this sample.

RESULTS

Sample Description

The 37,687 homeowners in this study had a mean income of $21,481 (Table 1). Most were married (76.1%). About 1/3 had less than a high school education, 1/3 had a high school education, and the other 1/3 had at least some college. Most of the heads were male (80.9%) and white (91.8%). Age was fairly evenly distributed among the categories from 30 to 69 years with only 8.9% of the heads under 30 and 14.6% over 70. A person 65 years or older was present in 25.2% of the households and a child under 6 in 15.8%.

TABLE 1. Household Characteristics

Characteristic	N	%
Presence of child < 6	5967	15.8
Presence of a person 65+	9503	25.2
Age of head		
< 29 years	3365	8.9
30-39 years	8222	21.8
40-49 years	7041	18.7
50-59 years	7251	19.3
60-69 years	6316	16.8
70-79 years	4024	10.7
80+ years	1468	3.9
Race of head		
Black & other	3090	8.2
White	34597	91.8
Education of head		
< 8 years	6526	17.3
9-11 years	5039	13.4
High school graduate	12939	34.3
Some college	5787	15.4
College graduate	3818	10.1
Post graduate	3578	9.5
Sex of head		
Female	7187	19.1
Male	30500	80.9
Marital status of head		
Married	28695	76.1
Widowed	4850	12.9
Divorced	2102	5.6
Separated	607	1.6
Never married	1433	3.8
Length of occupancy		
< 1 year	1722	4.6
1-5 years	12646	33.6
6-10 years	6093	16.2
11-20 years	8500	22.5
over 20 years	8726	23.2
	Mean	S.D.
Household Income (N=37687)	$21481	13649
Household Size	3.04	1.6

The housing units had an average of 6 rooms (Standard Deviation 1.6). Twenty-two percent of the housing units were 10 years old or less, 20.2% were 11 to 19 years old, another 28.4% were 20 to 40 years old and the remaining 28.6% of the units were over 40 years old (Table 2). House value was fairly evenly distributed among the categories. Natural gas heat was the dominant fuel for 51.9% of the units, followed by oil for 19.4% and electricity for 17.4%.

Storm doors and windows were the most frequent energy saving feature present for the housing units studied. Slightly over half of all households had storm doors and windows on every door or window in the house. In addition 11.2% had storm windows on some of the windows while 13.3% had storm doors on some of the doors. In declining order of importance, 7.6% of the sample used a window or portable fan (detached fan), 6.4% a ceiling fan or attic fan (attached fan), 5.7% awnings and 2.8% a dehumidifier to save energy.

TABLE 2. Housing and Energy Characteristics

Characteristic	N	%
Age of house		
< 1 year	327	0.9
1-5 years	4614	12.2
6-10 years	3663	9.7
11-19 years	7606	20.2
20-40 years	10701	28.4
over 40 years	10766	28.6
Type of heat		
Electric	6570	17.4
Gas	19556	51.9
LP gas	2664	7.1
Oil	7311	19.4
Wood	1023	2.7
Value of house		
< 25,000	4299	13.5
25-34,999	4134	12.9
35-44,999	5038	15.9
50-54,999	4524	14.3
55-64,999	3455	10.8
65-74,999	2866	9.0
75-89,999	2878	9.1
90-99,999	1123	3.5
100,000+	3426	10.9
Region		
Northeast	7450	19.8
Northcentral	10906	28.9
South	13438	35.7
West	5898	15.6
Energy Saving Items		
Storm doors & windows		
All	19074	52.6
Some	8968	24.7
Window or portable fan	2871	7.6
Ceiling or attic fan	2395	6.4
Awnings	592	5.7
Dehumidifier	1053	2.8

The Southern region contained 35.7% of the units followed by the Northcentral region with 29.8% and by the Northeast with 19.8% and West with 15.6%.

Conservation Activities

In the 37,687 households studied, 30,605 (81.2%) reported having some insulation, 4661 (12.4) reported having no insulation while the remaining 2421 (6.4%) did not know whether they had insulation in their houses.

In the 12 months prior to the survey, 20.6% of the sample added insulation in the following areas: 3.1% floor, 5.6% walls, 7.6% attic, and 4.7% water heater. (Addition of the individual percents slightly exceed 20.6 since households could have added insulation in more than one area). Other energy saving improvements added included storm windows (4.7%), storm doors (5.0%) and weatherstripping (19.1%).

Discriminant Analysis

SAS computer programs were used for the discriminant analyses. All the discriminators listed above were used in the preliminary stages of the data analysis. Based on these results, the variables entered into the stepwise discriminant analyses were reduced to:

(a) age of head
(b) presence of a child under 6
(c) household income
(d) household size
(e) length of occupancy
(f) age of the house
(g) value of the house
(h) region
(i) presence of storm doors or windows
(j) presence of a ceiling or attic fan
(k) presence of awnings
(l) type of heating fuel

Of key importance is how well the variables selected as discriminators predict behavior of households. Results are reported for the developmental sample from which the variables were chosen as well as the validation sample on which they were tested.

Presence of insulation. In the developmental sample, the discriminating variables correctly classified 75.9% of the households without insulation and 74.2% of those with insulation (Table 3). In the validation sample, 56.5% of the households without insulation were correctly classified whereas 76.1% of those with insulation were correctly classified. This suggests the variables are somewhat less successful in classifying household without insulation. Since this is a key group to target for energy conservation education and sales, more work is needed to improve the prediction ability of the model. For some households data on insulation were missing, these were classified as indicated in Table 3.

Addition of insulation. In the developmental sample, the discriminating variables correctly classified 61.1% of the sample who did not add insulation and 61.2% who added insulation (Table 4). In the validation sample, 60.6% were correctly classified as not adding insulation and 62.1% as adding insulation.

In addition to knowing how well the discriminant function differentiates between members of the groups studied, of importance is the contribution of the individual predictor variables to that success.

Coefficients for the variables used in the discriminant models with the developmental sample are given in Tables 5 and 6. The coefficient represents the amount of change in a household's position on that function if its score on the corresponding variable changed by one unit except for income where the change is reported on $100 units rather than one. To determine where any individual household would be classified, their raw score on each predictor variable X is taken and multiplied by its associated classification function coefficient. These products are summed and added to the constant. No interpretation of the coefficient is presented here since there is a different function for each group (Klecka).

It is important to remember that all the variables entered into the discrimant analysis are significant at the .05 level by design. Variables which were found to discriminate between housing units with insulation and those without in decreasing order of importance are: presence of storm doors or windows, age of the house, house value, location in the Northcentral region, household income, electric heat, oil heat, age of head, presence of an attached fan, location in the Western region, wood heat, and presence of a child under 6.

Variables which were found to discriminate between those households which added insulation and those who didn't in decreasing order of importance are: age of the head, presence of storm doors or windows, length of occupancy, age of the house, presence of an attached fan (ceiling or attic), wood heat, location in Northeast region, household income, presence of a child under 6 in the household, LP gas heat, location in the Western region, followed by location in the Northcentral region and oil heat.

CONCLUSIONS AND IMPLICATIONS

The present study was based on 1980 data. However, in 1986 The General Accounting Office reported that 86% of single family homes could be considered less than fully insulated. Thus, two, ways in which the results of the present study can be useful are in identifying households who are likely to add insulation and households who need to be educated on the benefits of insulation.

Williams and Braun (1979) indicated success with education efforts directed toward limited resource households. While Johnson-Carroll, Brandt and Olson (1987) note that educational programs aimed at encouraging energy conservation through belief in the energy problem are not recommended. The relationship between other conservation items and the addition of insulation suggests that information on the value of insulation at the time of purchase of items such as storm doors and windows would encourage greater conservation activity. Energy conservation packages are also suggested.

Policy-makers can segment programs to assist those most likely to undertake insulation conservation action and conversely to educate those least likely to undertake insulation activities on the benefits of such activities. Advertisement of education programs, as well as demonstrations, at the point of sale needs to be increased. Further, utilities could provide an evaluation of energy efficiency at the time housing units are sold as a base of comparison for prospective buyers of existing units as well as new units.

Caution should be used in applying the results of this study in that the data were collected in 1980 and as with much research could be refined and improved, especially in measurement of the variables. However, the study can provide a meaningful base for program planning, educational efforts and sales targeting.

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References

Cramer, J.C., et al. (1983), The Determinants of Residential Energy Use: A Physical-Social Causal Model of Summer Electricity Use. Paper presented at the Energy Crisis and Families Conference, Michigan State Univ.

Cunningham, W. and Lopreato, S.C. (1977), Energy Use and Conservation Incentives, New York: Praeger Publishers.

Dillman, Don A., et al. (1981), "A Western States Perspective on Public Policy for Household Energy Conservation," Housing and Society, 8 (No. 2): 80-92.

______, E. A. Rosa & Joyce J. Dillman (1983),"Lifestyles and Home Energy Conservation in the United States: The Poor Accept Lifestyle Cutbacks Which the Rich Invest in Conservation", Journal of Economic Psychology, 3: 299-315.

Dillman, Joyce J., Kenneth R. Tremblay, Jr., & Don A. Dillman (1977), "Energy Policies Directed at the Home: Which ones will people accept?", Housing Educators Journal, 4 (No. 2): 2-13.

Douthitt, Robin, A. (1986), "The Demand for Residential Space and Water Heating Fuel by Energy Conserving Households", Journal of Consumer Affairs, 20 (No. 2, Winter): 231-248.

Eichner, Marilyn M. and Earl W. Morris (1984), "Energy Conservation, Air Quality, Health, and Housing Satisfaction", Housing and Society, 11 (No. 1): 1-15.

Gladhart, Peter M. (1984), "Interactions of Prices and Household Characteristics and Residential Energy Conservation", Housing and Society, 11 (No. 3): 149-167.

Hanna, Sherman (1978), "Evaluation of Energy Saving Investments", Journal of Consumer Affairs, 12 (No. 1): 63-75.

Heberlein, T.A. and Warriner, G.K., (1980), Attitude, Motive, Ability and Knowledge Factors Affecting Household Peak Load Reductions in Consumption of Electricity, Madison, WI: University of Wisconsin, Department of Sociology.

Johnson-Carroll, Karen, J.A., Jeanette A. Brandt, and Geraldine I. Olson (1987), "Factors that Influence Energy-Conservation Alternatives in Oregon Households", Housing and Society, 14 (No. 2): 111-129.

Klecka, William R. (1980), Discriminant Analysis. Sage Publications, California.

Laquatra, Joseph (1986), "Energy Efficient Housing and Extension Specialist." Proceedings, American Association of Housing Educators, (Oct.): 88-98.

Latta, Robert B. (1981), "The National Interim Energy Consumption Survey: Exploring the Variability in Energy Consumption." Washington, D.C.: U.S. Department of Energy.

______ (1983), Regression Analysis of Energy Consumption by End Use, Washington, D.C.: U.S. Department of Energy.

Morrison, Bonnie M. et al. (1978), "Energy and Families: the Crisis and the Response", Journal of Home Economics, 70: 19-21.

Niemeyer, Shirley M. and Earl W. Morris (1986), "Economic and Psychological Constraints in Household Energy Conservation", Housing and Society, 13 (No. 1): 44-55.

Newman, D. and Day, D. (1975), The America Energy Consumer: A Report to the Energy Policy Project of the Ford Foundation, Cambridge, MA: Ballinger Publishing Co.

Ogus, Margo R. (1980),"Residential Energy Conservation and Price Response", Report to Economic Research Service, Washington, DC: U.S. Department of Agriculture.

Thompson, Wendel (1983), Consumption and Expenditures, April 1981 through March 1982, Washington, DC: U.S. Department of Energy.

Tremblay, Kenneth R., Jacquelyn W. McCray and Janet L. Navin (1984), "Impact of Economic and Energy Variables on Housing Preferences", Proceedings, American Association of Housing Educators, (Aug): 203-213.

Trienda, M. and O. Aboramph (1981), "Energy-related adaptions in low-income nonmetropolitan Wisconsin counties", Journal of Consumer Research, 8: 265-270.

Tyler, Loraine L., Rebecca P. Lovingood, Samuel P. Bowen and Richard F. Tyler (1982), "Energy-related Characteristics of Low-income Urban Tenants", Housing and Society, 9 (3): 9-15.

Williams, Sue, Nancy Lauener and Bonnie Braun (1979), "Adoption of Energy Conservation Practices by Selected Oklahoma Families", Proceedings, American Association of Housing Educators, 91-97.

U.S. General Accounting Office (1986), Energy Conservation, Federal Home Energy Audit Program Has Not Achieved Expectations, GAO/RCED 87-38, Washington, DC.

TABLE 3-Predicted and Actual Presence of Insulation

Actual	Predicted					
	Had Insulation		No Insulation		Totals	
	N	%	N	%	N	%
Developmental Sample						
Had insulation	18993	74.23	6593	25.77	25586	100.0
No insulation	880	24.10	2772	75.90	3652	100.0
Missing	555	57.51	410	42.49	965	100.0
Totals	20283	67.16	9920	32.84	30203	100.0
Validation Sample						
Had insulation	999	76.14	313	23.86	1312	100.0
No insulation	80	43.48	104	56.52	184	100.0
Missing	18	40.91	26	59.09	44	100.0
Totals	1097	71.23	443	28.77	1540	100.0

TABLE 4-Predicted and Actual Addition of Insulation

Actual	Predicted: Added Insulation N	Added Insulation %	Did Not Add Insulation N	Did Not Add Insulation %	Totals N	Totals %
Developmental Sample						
Added insulation	2248	61.20	1425	38.80	3673	100.0
Did not add insulation	10313	38.87	16217	61.13	26530	100.0
Totals	12561	41.59	17642	58.41	30203	100.0
Validation Sample						
Added insulation	123	62.12	75	37.88	198	100.0
Did not add insulation	528	39.34	814	60.66	1342	100.0
Totals	651	42.27	889	57.73	1540	100.0

TABLE 5-Discriminant Analysis Coefficients for Presence of Insulation (N = 29238)

Variable	Coefficient: Insulation	No Insulation
Constant	-15.271	-14.511
Age of house	0.212	0.256
Northeast	- 0.499	- 0.488
Northcentral	0.718	0.074
West	0.246	0.499
Age of head	0.991	1.020
Household income	0.001	0.001
A child under 6	5.477	5.608
Length of occupancy	- 0.061	- 0.056
Value of house	0.665	0.588
Storm doors & windows	3.480	1.959
Attached fan	0.395	0.044
Electric heat	4.468	4.005
Oil heat	0.937	0.613
LP gas heat	4.856	5.441
Wood heat	5.954	6.288

TABLE 6-Discriminant Analysis Coefficients for Addition of Insulation (N = 31743)

Variable	Coefficient: Insulation Added	No Insulation Added
Constant	-18.727	-18.305
Age of house	0.245	0.227
Value of house	0.652	0.655
Northeast	- 0.429	- 0.806
Northcentral	0.654	0.451
West	0.694	0.504
Age of head	1.166	- 1.222
Household income	0.007	0.007
A child under 6	4.081	3.888
Length of occupancy	- 0.089	- 0.061
Storm doors & windows	3.514	3.216
Attached fan	1.034	0.567
Oil heat	0.953	0.772
LP gas	5.017	4.800
Wood heat	6.253	5.495
Electric	4.566	4.549
Household size	1.983	1.965
Awnings	- 0.426	- 0.517

CHARACTERISTICS OF CONSUMERS WHO SAVE AND DISSAVE ENERGY AFTER INSTALLING ENERGY-CONSERVING DEVICES

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Abstract

The purpose of this paper was to describe the energy savings and dissavings households accrued after installing energy-conserving devices and to identify determinants of saving and dissaving. The data are a longitudinal component of the Residential Energy Consumption Survey, U.S. Department of Energy. The results indicate that a substantial portion of consumers who installed energy-conserving devices consumed more energy in the year following installation than in the year prior to installation. The likelihood of saving increased with installation of a wood-burning stove, higher previous energy consumption, and an increase in average price. The likelihood of dissaving increased with house size, installation of caulking, household size and increases in household size and single-parent households.

Consumers' energy conservation has been assessed primarily by describing and analyzing the determinants of the installation of energy-conserving structural devices (Fujii and Mak, 1984; Labay and Kinnear, 1981; Smiley, 1979). The actual savings from energy-conserving actions have rarely been described or analyzed. Instead we assume that these actions result in savings. Evidence indicates that actual savings may not accrue after taking energy conserving actions. Gladhart (1984) explored the determinants of energy savings and discovered that when other factors were accounted for, the installation of various energy-conserving devices did not significantly influence energy savings. Other researchers have also found that the savings obtained by installation of energy-conserving devices often fall short of expected savings (Douthitt, 1986; Beyea, Dutt and Woteki, 1978). There are numerous reasons for short-falls including improper installation, construction flaws, and lifestyle changes such as changes in household size. Another reason, only recently suggested, is compensation — the idea that some consumers modify their behavior post installation of energy-conserving devices and consequently reduce savings or use more than they used prior to installation (Beck, 1984).

The purposes of this paper are to examine consumers' energy consumption post installation of energy-conserving devices and to determine why some consumers achieve net savings after installing energy-conserving devices and others do not. The objectives of this study are 1) to describe the savings and dissavings in Btus per degree day among installers of energy- conserving devices and 2) to identify the characteristics which distinguish savers from dissavers. Longitudinal data from the U.S. Department of Energy's Residential Energy Conservation Survey, are employed in the analysis.

The Model and Review of Literature

Various researchers have projected that about 50 percent of residential energy consumption could be saved with conservation and solar energy (Rosenfeld, Cleary and Harris, 1980). Sinden (1978) was able to achieve a 67 percent saving in the Twin Rivers townhouse he retrofitted. Others have reported that consumers in their studies have achieved between 5 and 45 percent savings with the most typical achievement being 5 to 15 percent (Gladhart, 1984). Gladhart also found approximately 15 percent of sample members to have increased energy consumption in particular years but only 8 percent had dissavings over the entire period measured. The savings and dissavings reported by Gladhart (1984) are, however, not discussed in relation to conservation efforts undertaken.

To determine why some consumers save energy after investing in energy-conserving equipment and others dissave, the initial supposition of this paper is that it is largely a function of consumer behavior. A scenario is offered in which consumers have conserved behaviorally prior to retrofitting and then modified or dropped these behaviors after installing the conservation substitute. This is a plausible scenario because most conservation by U.S. consumers has been acheived by behavioral means (Friedan and Baker, 1983). In addition, consumers value lifestyle amenities and incorporate them in decisions to conserve energy (Feldman, 1986).

If the primary reason for whether consumers save or dissave subsequent to retrofitting their homes is behavioral, we posit that the behavior change occurring after installation of energy-conserving devices would be a function of the determinants of other energy-conserving efforts. Energy conservation is associated with characteristics of both consumers and their dwellings. These characteristics influence the benefits, costs and constraints of conserving.

Benefits and Costs of Conserving

Benefits to conserving are a function of the price of energy and changes in price. Price has been strong and consistent in determining consumption of energy but less so in affecting conservation. Gladhart (1984) found a strong effect on conservation, Fujii and Mak (1984), an inconsistent one and Smiley (1979), none at all.

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The benefits of conserving are also influenced by personal characteristics of consumers. Household size has sometimes been positively related to conservation (Fujii and Mak, 1984; Gladhart, 1984). Age reduces conservation efforts (Smiley, 1979; Hirst et al., 1981) or has no effect (Gladhart, 1984).

Personal characteristics may influence the costs of conserving. For example time costs limit the amount of behavioral conservation consumers will undertake.

Constraints to Conserving

Qualities of the dwelling impose constraints on conservation efforts. Conservation has been positively linked with house age (Hirst, Goeltz and Carney, 1981; Smiley, 1979) and a measure of house size, number of rooms heated (Fujii and Mak, 1984). Previous additions of insulation predict further additions of insulation (Smiley, 1979) but additions of insulation do not necessarily reduce consumption (Gladhart, 1984). Sinden (1978) found window insulation to reduce energy consumption.

Another constraint, income, is an important (Gladhart, 1984) and consistent indicator of actual conservation (Hirst, et al., 1981; Friedan and Baker, 1983). It has been more consistent than price in predicting conservation (Fujii and Mak, 1984; Smiley, 1979).

Gladhart (1984) found previous years' consumption to be nearly as important as price and more important than income in determining level of conservation. Hirst et al. (1981) identified a positive relationship between prior consumption and conservation. Prior consumption measures several things including amount of discretionary consumption, structural inadequacies and ability and willingness to pay for energy.

METHODS

Data

The data used in this analysis are from the Residential Energy Consumption Surveys (RECS) collected by the U.S. Department of Energy. About 96 percent of the data were collected with interviews and 4 percent with mail questionnaires (U.S. Department of Energy, 1983). The energy consumption data span two one-year periods, April, 1980 to March, 1981 and April, 1982 to March, 1983. Where inconsistencies existed between answers to the same question over the period, the households were contacted by telephone for supplemental information (U.S. Department of Energy, 1985).

Sample

The 1980/81 RECS sample is a random sample of households in the contiguous United States. Of the households interviewed in 1980, about 2300 were resurveyed in 1982 (U.S. Department of Energy, 1983, p. 10). Of these, 1603 lived in the same housing unit in both time periods and thus, were employed in this analysis. Renters were subsequently omitted, leaving 1207. Of these homeowners, 548 had installed some type of energy-conserving device between March 1981 and April 1982 (the year between the available energy consumption data) and are employed in this analysis.

Analysis

To address the first objective, energy use and savings over time were described with means and comparisons were made with t-tests. The second objective was met with a logit analysis. The dependent variable, defined in Table 1, equals one for those who saved at least one Btu/DD and zero for those who consumed at least one Btu/DD more in 1983 than in 1981 (dissaved). To investigate the effects of type of energy-conserving device on energy savings and dissavings the model was specified in two ways. The first model included the variables, number of major and lowcost energy-conserving devices installed, while the second model contained three specific energy-conserving devices.[1] The models were alike otherwise. Multicollinearity was explored with simple correlations and multiple regressions of the independent variables on each other. Income, age of the house and employment status of household adults were found to be so highly correlated with several of the remaining independent variables that they were eliminated from subsequent logit analyses.

Variables

Variables and the direction of expected relationships are defined in Table 1. The energy consumption and expenditure data were obtained from the respondents' energy suppliers, including utility companies and retailers of propane gas, among others. Imputations were made when the data were not available or when there were gaps in the data. The average price variable was computed by dividing the total annual expenditure on energy by the Btus consumed during the same year. This was the only price variable available on the data set.

The energy-conserving devices were limited to those added between March 1981 and March 1982 and were coded dichotomously as indicated in Table 1. We employed the typology of Stern, Black and Elworth (1983) to categorize the energy-conserving devices as major efficiency improvements and low-cost efficiency improvements. Major efficiency improvements included adding attic, wall, or basement insulation, storm doors, windows, a clock thermostat, heatpump or wood-burning stove; fixing the furnace by adding or replacing the head burner, automatic flue door, or spark ignition; and replacing the furnace, water heater, or air conditioner. Low-cost improvements included adding duct, pipe or water heater insulation, shutters or plastic sheets to windows, caulking, or weatherstripping.

Table 1

Variable definitions and data sources

Symbol	Definition	Expected sign
Dependent:		
SAVE	Dummy variable =1 for Btus per degree day consumed in 1980/81 minus Btus per degree day consumed in 1982/83 greater than or equal to 1 and =0 for the difference in Btus per degree day less than or equal to -1[a]	
Independent:		
Average price per Btu	Total expenditure for energy in 1980/81 divided by total number of Btus of energy consumed in 1980/81[a]	+
Change in average price/Btu	Average price/Btu in 1983 minus price/Btu in 1981	+
Household size	Number of household members in 1981	+
Change in hsld size	Household size in 1983 minus household size in 1981	-
Age	Age of household head	-
Single parent of hsld	Dummy variable = 1 for single-parent households in 1981	-
House size	Size of house in square feet in 1981	-
Change in house size	House size in 1983 minus house size in 1981	-
Major devices	Number of major energy-saving device installed[b]	+
Low cost devices	Number of low cost energy-saving devices installed[b]	+
Storm doors	Dummy variable = 1 for storm doors added to sliding glass doors[b]	+
Wood-burning stove	Dummy variable = 1 for installation of wood-burning stove[b]	+
Caulking	Dummy variable = 1 for caulking added[b]	+
1980-81 Btus	Total number of Btus per degree day consumed 1980/81[a]	+
Income change household	Household income in 1983 minus income in 1981	-
Education	Level of education of household head	+

[a] Utility bills from April of the beginning year through March of the following year.

[b] Devices were installed between March 1981 and April 1982.

FINDINGS AND DISCUSSION

Descriptive Statistics

As Table 2 shows, the average sample member had installed 2.58 energy-conserving devices but installation ranged from a low of 1 to a high of 10. On average they had installed 1.09 major devices and 1.49 low-cost devices. The mean energy usage in 1981 was 20.31 Btus per degree day (Btu/DD) and in 1983, 19.56, for the sample as a whole. The 4 percent decrease in energy consumed was statistically significant ($p \leq .01$).

Table 2

Descriptions of energy-conservation efforts and energy saved

	Mean (Standard Deviation)
Number of major devices installed	1.09 (1.07)
Number of low-cost devices installed	1.49 (1.22)
Btus per degree day in 1981	20.31 (9.52)
Btus per degree day in 1983	19.56 (9.74)
Mean savings in Btus per degree day	.75 (5.97)

Energy savings and dissavings were defined in two different ways, as shown in Table 3. In the first case savings and dissavings were defined as positive and negative values, respectively, on the change in Btus/DD over the period. In the second case, savings and dissavings were defined as positive and negative changes, respectively, greater than or equal to one. Using the first definition, Table 3 shows that 55 percent of the sample saved energy over the period. Savings ranged from .02 to 26.12 Btus per degree day. The median savings were 2.67 Btus per degree day, or 13 percent of their 1980/81 usage. On the other hand 45 percent of the sample, all of whom also had added some sort of energy-saving device, increased their energy use between 1980/81 and 1982/83. In other words — they dissaved. The dissavings ranged from 56.24 to .01 Btus/DD. The median dissavings was 1.91 Btus/DD amounting to a 9 percent increase.

The second, and more rigorous definition of savings (those who saved at least 1 Btu/DD), shows that 40.1 percent of the sample of installers obtained net savings over the period (Table 3). The median savings for this group was 3.81 Btus/DD. According to this definition approximately 30 percent of sample members had no

Table 3

Energy savings and dissavings of installers of energy-conserving devices

	Percent of sample	Median change in Btus/DD
Definition 1: Saved (dissaved) Btus/DD greater than (less than) zero		
Savers	55	2.67
Dissavers	45	-1.91
Definition 2: Saved (dissaved) Btus/DD greater or equal to than 1 and -1		
Savers	40	3.81
Dissavers	30	-3.18
No change	30	0.00

net change in their energy usage after installing energy-saving items. Finally 30.5 percent dissaved, a median dissaving of 3.18 Btus/DD.

Using either definition the percentage of dissavers in this sample is substantial. The more rigorous definition indicates that 60 percent of the households in the sample had either not changed or had increased their energy use after trying to conserve by improving the thermal integrity of their dwellings.

Logit Results

The results of the logit analysis used to explore why some households saved and others dissaved are reported in Table 4. The two models in Table 4 correspond to the two specifications of the model which vary by the indicants of energy-conserving efforts made. Because the coefficients of the variables common to both models are similar the first model is used for interpretation. The likelihood ratios of each model indicate both equations are statistically significant at the .0001 level.

Benefits and Costs

Average price in 1980-81 did not affect whether consumers saved after installing conservation equipment and the coefficient on change in price was significant in Model 1 but not in Model 2. The inconsistency is probably due to collinearity with one or more of the insulation variables. The likelihood of saving rose with price increases; price increases of an additional .1 of a cent per Btu increased the probability of saving by almost 19 percent compared with the average household.

Household size and growth in size increased the likelihood of dissaving. Households with one extra member were .05 percent less likely to save than the average household. Households which had grown by one member were .14 percent more likely to have dissaved over the period compared with the average household. Growing households would be expected to increase their use but the same would not be expected for larger households. This is because the benefits to saving energy rise with household size. Installation of energy-saving equipment has been positively associated with household size (Fujii and Mak, 1984). While larger households may be more likely than smaller households to install insulating devices, findings from this study argue that they are less likely to achieve

Table 4

Results of Logit Analysis ofSavers and Dissavers[a]

	Model 1		Model 2	
	Column 1	Column 2	Column 3	Column 4
Independent Variables	Coefficient[b] (A.S.E.[c])	ME[d]	Coefficient[b] (A.S.E.[c])	ME[d]
Benefits				
Avg price/Btu	15.06		19.42	
	(36.94)		(37.87)	
Change in price/Btu	75.52**	18.88	52.43	
	(36.33)		(36.04)	
Household size	-.20**	-.048	-.22**	
	(.10)		(.10)	
Change in household size	-.55****	-.14	-.55***	
	(.16)		(.17)	
Age	-.006		-.005	
	(.01)		(.010)	
Costs				
Single parent hsld	-.48**	-.24	-.46**	
	(.23)		(.23)	
Constraints				
House size	-.0002*	-.00004	-.0002	
	(.0001)		(.0001)	
Change in house size	-.0001		-.0001	
	(.0002)		(.0002)	
Installation of:				
Major devices	.09			
	(.11)			
Low cost devices	-.04			
	(.09)			
Storm doors			.38	
			(.28)	
Wood-bng stove			.68***	.34
			(.23)	
Caulking			-.25**	-.13
			(.12)	
1980-81 Btus	.09****	.0223	.09****	
	(.02)		(.02)	
Income change	-.00001		-.000008	
	(.00001)		(.00001)	
Education	-.02		-.02	
	(.04)		(.04)	
Intercept	.92		.13	
	(1.04)		(1.09)	
Likelihood Ratio Statistic	468.61****		451.04****	
N	388		388	

[a] The dependent variable is SAVE, coded 1 for those who saved energy and -1 for those who dissaved energy after installing at least one energy-conserving device, using the second definition in Table 3.

[b] Statistically significant at $*p \leq .10$, $**p \leq .05$, $***p \leq .01$, $****p \leq .001$.

[c] Asymptotic standard error

[d] Marginal effects were calculated with the following formula:

$$\frac{\delta P_i}{\delta X_i} = \left[\frac{e^{\bar{X}}}{(1 + e^{\bar{X}})^2} \right] \beta_i$$

For the interval level variables X as been computed with mean values and for the categorical variables X has been computed with modal values (Harushek and Jackson, 1977).

savings than smaller households.

The probability of saving declined with age, as expected. Older households have shorter time horizons than younger households and may be more likely to increase thermostat settings to increase comfort after improving the thermal quality of their dwellings.

Finally households of single parents were more likely to be dissavers than other households. Specifically they were .24 percent more likely to have increased their energy consumption after installing energy-conserving devices than their counterparts. The high time costs of single parents would encourage them to drop time-consuming behavioral energy-saving methods after installing substitutes for them. In addition they might have relied increasingly on energy, especially electricity, to substitute for their own time in household production tasks.

Constraints

The likelihood of dissaving increased with house size but the effect was small. Households with an extra 1000 square feet of space were .04 percent less likely to have saved energy than the average household. Change in house size did not affect the process (see Model 1, Column 1, Table 4). Few respondents enlarged their houses (or reduced their size) over the period thus the latter finding may reflect low variation in the variable, change in house size, than its unimportance to saving energy.

The number of either major or low-cost conserving devices did not significantly influence whether the household saved or dissaved post installation. However, the signs of the coefficients imply that the more major energy-conserving devices installed the more likely saving will occur and the more low-cost items installed the more likely dissaving. As the coefficients in Model 2 indicate, savers were more likely to have installed wood-burning stoves but were equally as likely as dissavers to have installed storm doors on sliding glass doors. Dissavers were more likely to have caulked than to have added energy-conserving devices. Adding a wood-burning stove increased the probability of saving by .34 percent while caulking raised the probability of dissaving by .25 percent compared with the average household.

Energy consumed in the baseline period, 1980/81 strongly increased the likelihood of saving. Consumption of an extra Btu/DD in 1980/81 increased the probability of saving energy by more than 2 percent. Energy consumed in the baseline period suggests the level of discretionary consumption as well as the relative thermal efficiency of the dwelling. Those who had previously made few conserving improvements would have had higher previous consumption and thus an incentive to save. Dissavers may have felt that their relatively lower consumption warranted relaxation, especially if the lower consumption had been achieved with lifestyle cutbacks which the households wanted to regain.

Although the univariate statistics indicated the changes in income to be substantial they did not influence consumers to save or dissave energy over the period. Furthermore the likelihood of saving was not influenced by the education of the household head.

CONCLUSIONS AND IMPLICATIONS

This analysis showed that a high proportion of consumers who had installed energy-conserving devices consequently dissaved or used the same amount of energy before and after the investment. Thus installation of energy-conserving structural devices alone does not necessarily save energy. The model used in this study identifies the characteristics that differentiate between consumers who saved and those who dissaved after retrofitting provided a partial explanation of the process. Because of the longitudinal nature of the data base the impacts of changes in the house, household and economic environment could be measured. Change in average price and household size were predictably important. Average price, however, did not increase the probability of saving energy which is congruent with those of Fujii and Mak (1984) and Smiley (1979). The equivocal effect of the price variable is particularly salient because U.S. energy policy relies on price primarily, if not exclusively, for stimulating conservation among consumers.

These results imply that other factors are as important as attempts to improve thermal integrity in determining energy conservation. If future studies indicate that these results point to widespread malfunctioning and improperly installed conserving products then they indicate that consumers have problems with manufacturers and retailers that need to be addressed. The results may also indicate that do-it-yourself installers need better information than they now obtain.

Furthermore the additional, albeit indirect, evidence of behavioral changes occurring after installing energy-conserving devices imply that observing the conservation process only up to the point of retrofit fails to capture a comprehensive view of the process. The RECS data are longitudinal and incorporated information about the structural, economic and demographic characteristics of consumers, their dwellings and economic systems and the structural modifications consumers make to conserve. As broad as these data are it will be necessary in the future to collect longitudinal data that also inquires about consumers' behavioral conservation methods including those which are used following energy-conserving structural improvements. Knowledge of the entire conservation process will promote the dissemination of information to consumers which will help them ensure net benefits to conservation and savings of energy for the society as a whole.

References

Beck, Becky O. (1984). The effect of structural modification on energy conservation behaviors. In C. A. Dickson (Ed.), Proceedings of the 24th Annual Convention of the Western Regional Family Economics-Home Management Educators (pp. 71-75). Honolulu,Hawaii.

Beyea, J., Dutt, G. and Woteki, T. (1978). Critical significance of attics and basements in the energy balance of Twin Rivers townhouses. In R. H. Socolow (Ed.), Saving Energy in Home (pp. 103-120). Cambridge, MA: Ballinger Publishing Co.

Dillman, D.A., E.A. Rosa & J.J. Dillman, (1983). Lifestyle and Home Energy Conservation in the United States: The Poor Accept LifestyleCutbacks While the Wealthy Invest in Conservation. The Journal of Economic Psychology, 3, 299- 315.

Douthitt, R. (1986). The Demand for Residential Space and Water Heating Fuel: Some New Evidence. The Journal of Consumer Affairs, 20(2), 231-248.

Feldman, S. (1986). Why Is it So Hard to Sell 'Savings' as a Reason for Energy Conservation? In W. Kempton and M. Neiman (Eds.), Energy Efficiency: Perspectives on IndividualBehavior (pp. 27-40). Washington, D.C.: American Council for an Energy-Efficient Economy.

Friedan, B.J. and K. Baker (1983). The Market Needs Help: The Disappointing Record of Home Energy Conservation. Journal of Policy Analysis and Management, 2, 432-448.

Fujii, E.T. and J. Mak (1984). A Model of Household Electricity Conservation Behavior. Land Economics, 60, 341- 351.

Gladhart, P. M. (1984). Interactions of Prices and Household Characteristics in the Determination of Residential Energy Conservation. In Morrison, B.M. and W. Kempton (Eds.), Families and Energy: Coping with Uncertainty - Conference Proceedings (pp. 533-550). Lansing, MI: College of Human Ecology.

Harushek, E. and Jackson, J.E. (1977). Statistical Methods for Social Scientists. New York: Academic Press.

Hausman, J.A. (Spring 1979). "Individual discount rates and the purchase and utilization of energy-using durables,"The Bell Journal of Economics, 10, 33-54.

Hirst, E., Goeltz, R. and J. Carney (1981). Residential Use and Conservation Actions: Analysis of Disaggregated Data. Oak Ridge, TN: Oak Ridge National Laboratories.

Hrozencik, Diane F. (1984). Binomial logit analysis. In K. P. Goebel (Ed.), Proceedings of the 30th Annual Convention of the American Council on Consumer Interests (pp. 147-150). Atlanta, Georgia, U.S.A.: A.C.C.I. University of Missouri, Columbia, MO.

Kempton, W., Gladhart, P. and Keefe, D. (1981). Home insulation: The user's view. Lansing, MI: Michigan Agricultural Experiment Station.

Labay, D. C. and Kinnear, T. C. (1981). Exploring the consumer decision process in the adoption of solar energy systems. Journal of Consumer Research, 8, 271-278.

Meyers, Stephen and Lee Schipper (1984). Energy in American Homes: Changes and Prospects. In Morrison, B.M. and W. Kempton (Eds.), Families and Energy: Coping with Uncertainty Conference Proceedings (pp. 81-102). Lansing, MI: College of Human Ecology.

Pitts, R. E., Willenborg, J. F., & Sherrell, D. L. (1981). Consumer Adaptation to Gasoline Price Increases. Journal of Consumer Research, 8(3), 322-330.

Rosenfeld, Arthur H., Cleary, Peter, Harris, Jeffrey (1980). The potential for energy efficiency in homes: A least cost scenario, 1980-2000. In J. P. Harris and J. M. Hollander (Eds.), Improving energy efficiency in buildings: Progress and Problems (pp. 1.11.1-1.11.17). Golden, CO.

Sinden, Frank W. (1978). A Two-Thirds Reduction in the Space Heat Requirement of a Twin Rivers Townhouse. In R. H. Socolow (Ed.), Saving Energy in the Home (pp. 63-102). Cambridge, MA: Ballinger Publishing Co.

Smiley, R. (1979). The Levels and Determinants of Household Insulation Activity. Energy, 4, 1087-1098.

Stern, P. C., J. Stanley Black, and Julie T. Elworth (1983). Responses to Changing Energy Conditions Among MassachusettHouseholds. Energy, 8(7), 515-523.

U.S. Department of Energy, (January 1983). Residential Energy Consumption Survey, Housing Characteristics, 1980 and Consumption and Expenditures April 1980 through March 1981. Washington, DC: U.S. Dept. of Commerce, National Technical Information Service.

U.S. Department of Energy, (May 1985). 1982 Residential Energy Consumption Survey and 1983 Residential Transportation Energy Consumption Survey. Washington, DC: Energy Information Administration.

CONSUMER SATISFACTION WITH STRUCTURAL QUALITY IN CONDOMINIUMS

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This study sought to identify consumer problems related to construction quality in new condominiums and to establish levels of satisfaction. Single family homes were included in the sample for comparison. A random mail survey of recent homeowners in San Diego County, California, resulted in a final sample of 241 condominium owners and 113 conventional owners. Owners were dissatisfied with several aspects of construction including poor quality materials and workmanship. Fewer problems were reported overall for condominiums than for conventional homes. Soundproofing, roofing, heating systems, and windows were rated significantly lower in condominiums. Despite a large number of problem areas, general satisfaction with construction quality was high for both groups.

INTRODUCTION

Although the growth of condominiums in urban areas has been rapid (San Diego Comprehensive Planning Organization, 1979, p. 49; San Diego County, 1982, p. 6; San Diego Planning Commission, 1981, pp. 15, 20; 1985, p. 80; U.S. Department of Housing and Urban Development, 1975, p. 1), the study of consumer problems in condominiums has been very limited. In San Diego County the number of condominiums increased dramatically from 42,000 units in 1978 to 87,000 units in 1987 (Smith, 1987, p. F-14). No comparative analysis between condominiums and conventional homes has previously been completed. The complexity of housing as a consumer product as well as the extremely high cost are impelling factors for consumer awareness and information in the purchasing decision.

The purpose of this study was to determine the extent of satisfaction with structural quality by owner-occupants of new condominiums and conventional houses, and to compare levels of satisfaction between the two groups. A questionnaire mailed to recent homeowners in San Diego County located in Southern California, was used to examine types and frequency of problems with structural quality, and quality ratings of materials and workmanship. Implications were determined for consumers, educators, industry professionals, policy makers, and future research.

RELATED RESEARCH

Through previous studies, construction has been identified as a significant problem associated with condominium development and in other types of housing as well. Quality of construction was one of the issues raised in an early study sponsored by the Urban Land Institute which focused on condominium buyer satisfaction (Norcross, 1973). Sloppy workmanship, cheap materials, inadequate noise insulation, and leaky plumbing drew complaints. In response to a congressional mandate, the U.S. Department of Housing and Urban Development (HUD) initiated a detailed national study of condominiums (1975). Considerable evidence of poor construction quality in new condominiums was found throughout the country. Twenty-two percent of unit owners surveyed indicated they were dissatisfied or very dissatisfied with the construction quality of their units. Poor workmanship and inferior building materials were among problem areas cited. Inadequate soundproofing was the deficiency cited most often.

Davidson (1981) conducted a more recent study of condominium problems. In a review of consumer complaints received by the Florida Division of Land Sales and Condominium Development, Davidson found complaints related to the developer and construction were the third most frequently cited. Warranties were identified most often in that category. Due to a growing volume of complaints from homebuyers who reported defects in newly constructed housing and failure to obtain satisfactory resolution from builders, the U.S. Federal Trade Commission (FTC) along with HUD, sponsored a national survey of housing defects (HUD, 1980). Almost 80% reported at least one serious defect (over $100). The survey indicated that the average homeowner can expect about $900 of repair expenses within the first 30 months of ownership.

Satisfaction is a subjective evaluation, but is an accepted measure to discover if consumer housing needs are being met, or utility received for housing dollars. There is also evidence that physical quality of housing is significantly and positively related to housing satisfaction (Campbell, Converse, and Rodgers, 1976; Hanna and Lindamood, 1981; Harris, 1976; Kain and Quigley, 1970; Lane and Kinsey, 1980). It has also been shown that it is possible to be satisfied with the whole, yet be dissatisfied with specific features of housing (Brink and Johnston, 1979). This research was designed to be a detailed analysis to identify specific problem areas and to assess the relative quality of specific features between condominiums and conventional houses.

PROCEDURE

A questionnaire including questions on satisfaction with structural quality, quality ratings of materials and workmanship, pre-purchase actions, consumer recourse, and demographic information was developed based on previously mentioned studies. The questionnaire was mailed to a random sample of recent homeowners in San Diego County in April, 1986. The population consists of owner-occupants of new condominium and conventional houses in subdivisions of 50 or more units sold between July 1, 1983, and March 1, 1985. These were the most recent data available at the County Assessor's Office. All condominiums were attached low-rise, high-rise, or townhouse units.

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Using these criteria, 18 condominium developments and 15 single family housing tracts were identified which were acceptable for sample. A probability sample of 1094 owner-occupants was obtained. A total of 354 eligible responses was received achieving a response rate of 32% including 241 condominium owners and 113 conventional owners. Satisfaction was measuerd by a four point modified Likert scale, from very satisfied to very dissatisfied. Frequencies, percentages, crosstabulation, and Chi Square were used to analyze the data. Ten hypotheses were developed and tested against a minimum significance level of .05.

RESULTS

The typical composite of subjects who participated in this study was a white, young (40 or under), college-educated, white collar, middle-income, married, two-person household, with no children. The most common price range for conventional homes was $120,000-$149,999, while the most common price range for condominium homes was $80,000-$99,999. Although condominiums were usually less expensive, there was some overlapping of prices with a large number of condominiums and conventional houses in equal price categories. Condominiums tended to be smaller than conventional houses and had fewer bedrooms. Two bedrooms were most common in condominiums, and three bedrooms in conventional homes.

As expected a large majority of owner-occupants were satisfied with the overall structural quality of their housing unit (82.2%) and housing development (87.7%). However, 17.8% were dissatisfied with their housing units, which is a sizeable number of dissatisfied owners. It was hypothesized that more owners of single family homes would be satisfied with structural quality than would owners of condominiums. However, this hypothesis was not accepted as there was no significant difference between condominium owners and conventional owners.

A checklist of 29 structural elements was used to evaluate frequency of reported problems (Table 1). Conventional owners had more frequent problems with 24 elements, while condominium owners had more frequent problems with only five. Soundproofing was the only feature with significantly more problems in condominiums, while interior finish, concrete, wall construction, and kitchen appliances were significantly more frequent problems in conventional houses. It had been hypothesized that owner-occupants of condominiums would report more problems, however, the reverse was true. Therefore, the hypothesis was not accepted.

TABLE 1. Frequency of Problems with Structural Elements: Priority Ranking by All Owners Combined

Structural element	All owners		Condominium owners		Conventional owners	
	n	%	n	%	n	%
Soil grading	140	42.6	84	38.5	56	50.5*
Interior finish	143	41.8	84	36.8	59	51.8**
Floor covering	137	39.9	87	37.5	50	45.0
Plumbing	129	37.5	83	35.8	46	41.1
Exterior finish	125	36.8	76	33.0	49	44.5*
Windows	120	34.9	77	33.5	43	37.7
Doors/locks	117	34.3	73	31.6	44	40.0
Landscaping	103	34.2	77	34.2	26	34.2
Concrete	107	32.2	64	28.1	43	41.3**
Bathroom fixtures	92	26.7	56	24.3	36	31.6
Roof	87	26.1	56	25.0	31	28.4
Wall construction	77	22.6	41	17.6	36	33.3***
Electrical system	74	22.1	46	24.4	28	25.7
Soundproofing	73	21.8	58	25.0**	15	14.6
Floor construction	72	21.1	47	20.3	25	22.7
Kitchen appliances	60	19.8	35	15.2	33	29.2***
Cabinets	66	19.3	43	18.6	23	20.7
Garage	44	15.1	25	13.9	19	17.1
Heating System	49	14.3	34	14.7	15	13.4
Counters	48	14.3	28	12.2	20	18.0
Air conditioning	23	13.9	20	15.5	3	8.3
Laundry	40	12.5	26	12.0	14	13.5
Fireplace	33	11.2	17	9.3	16	14.3
Ceiling finish	32	9.6	19	8.4	13	11.9
Closets	31	9.1	21	9.1	10	9.0
Water heater	30	8.9	22	9.7	8	7.2
Foundation	29	8.8	18	8.1	11	10.2
Ceiling construction	29	8.6	17	17.4	12	11.1
Stairs	15	5.7	10	5.2	5	6.9

*p < .10. **p < .05. ***p < .01.

The five most frequently reported problems for all owners were: soil grading and drainage (42.6%), interior wall finishing (41.8%), floor covering (39.9%), plumbing system (37.5%), and exterior finishing (36.8%). Types of problems ranged from minor to major.

Materials and workmanship were evaluated by quality ratings from terrible to outstanding, with good being considered the average or acceptable rating. Out of 27 materials tested, 20 were rated lower in condominiums, with four of these rated significantly lower in condominiums: soundproofing, windows, heating fixtures, and roofing (Table 2). Only concrete material was rated significantly lower by conventional owners. This was in agreement with the hypothesis which stated that condominium owners would rate quality of materials lower than would owners of conventional houses.

It was also hypothesized that workmanship would be rated lower by condominium owners than by conventional owners. However, this hypothesis was not supported because none of the 17 items tested for workmanship were rated significantly lower in condominiums, while three areas of workmanship were rated significantly lower in conventional houses: landscaping, concretework, and brickwork (Table 3).

There was no significant difference in percentage of condominiums and conventional owners who visually inspected their unit (95.7% vs. 99.1%), hired a professional inspector (13.3% vs. 18.8%), reviewed an inspection report (46.5% vs. 50%), or obtained a written warranty (84.8% vs. 87.2%). Visual inspection, professional inspection, and reviewing an inspection report did not

TABLE 2. Quality of Materials: Sixteen Lowest Rated by Condominium Owners

Materials variable	(-)		Good		(+)	
	n	%	n	%	n	%
Soundproofing	74	31.8**	117	50.2	42	18.0
Floor covering	70	31.4	127	57.0	26	11.7
Windows	69	29.5***	131	56.0	34	14.5
Landscaping	61	26.8	111	48.7	56	24.6
Bathroom fixtures	52	22.6	141	61.3	37	16.1
Air conditioning	26	22.2	75	64.1	16	13.7
Plumbing system	51	21.8	157	67.1	26	11.1
Doors	50	21.5	152	65.2	31	13.3
Concrete	44	19.6	153	68.0	28	12.4
Floor construction	42	18.2	134	74.9	23	12.8
Cabinets	40	16.9	132	55.9	64	27.1
Heating fixtures	36	15.9***	146	64.3	45	19.8
Interior walls	37	15.7	174	74.0	24	10.2
Closets	36	15.5	157	67.4	40	17.2
Exterior walls	35	15.1	172	74.1	25	10.8
Roofing	33	14.7**	151	67.4	40	17.9

Note. Rank order listing by ratings lower than Good (-). Originally six categories of ratings were used. These were recoded into three categories. Good was left as one category as it was the median rating for all variables and was considered as "average." Terrible, Bad, and Poor were considered below average (-), and Excellent and Outstanding were considered above average (+).

*$p < .10$. **$p < .05$. ***$p < .01$.
Significantly lower than ratings by conventional owners.

TABLE 3. Quality of Workmanship: Lowest Rated by Conventional Owners

Workmanship variable	(-)		Good		(+)	
	n	%	n	%	n	%
Landscaping	27	45.0***	29	48.3	4	6.7
Soil grading	44	41.9	55	52.4	6	5.7
Interior painting	41	36.0	67	58.5	6	5.3
Interior trim	39	35.8	64	58.7	6	5.5
Floor covering	38	34.2	62	55.9	11	9.9
Plumbing installation	35	30.7	72	63.2	7	6.1
Concretework	33	30.6**	70	64.8	5	4.6
Door installation	34	29.8	72	63.2	8	7.0
Exterior trim	33	28.9	73	64.0	8	7.0
Exterior painting	30	27.3	73	66.4	7	6.4
Window installation	30	26.3	71	62.3	13	11.4
Tilework	25	24.0	60	57.7	19	18.3
Electrical installation	24	21.1	81	71.1	9	7.9
Cabinetwork	24	20.9	72	62.6	19	16.5
Appliance installation	19	16.8*	84	74.3	10	8.8
Counter installation	19	16.5	76	66.1	20	17.4
Brickwork	13	15.1**	58	67.4	15	17.4

Note. Rank order listing by (-). Originally six categories of ratings were used. These were recoded into three categories. Good was left as one category as it was the median rating for all variables and was considered as "average." Terrible, Bad, and Poor were considered below average (-), and Excellent and Outstanding were considered above average (+).

*$p < .10$. **$p < .05$. ***$p < .01$.
Significantly lower than ratings by condominium owners.

significantly increase satisfaction with structural quality. A written warranty did increase satisfaction significantly for all owners combined. Professional inspection increased satisfaction with structural quality significantly only for condominium owners.

Among owners of condominiums, 19.9% reported repairs over $100, while 22.7% of owners of conventional houses had reported repair expenses over $100. Although it appears conventional owners had more repairs, the difference was not significant. The combined total for all respondents with repair expenses over $100 was 22.4%. Of those who had repairs costing over $100, 89.9% contacted the developer to handle the problem. Nearly one-third (32.9%) consulted an attorney. Slightly less than half said the problem had been resolved. The builder paid for repairs in 34.2% of the cases, while the resident assumed the burden for 29.1%. Homeowner Associations paid for 2.5%, 19% were not yet settled, and 15.2% were listed as "other." Some of these were covered by insurance, while many were split settlements between resident and builder.

CONCLUSIONS

Although satisfaction with structural quality is generally high for owner-occupants of both condominiums and conventional houses, there appears to be room for improvement. The large minority of dissatisfied owners raises the question of what percentage is acceptable.

It has been shown that structural quality is not necessarily better in conventional homes than in condominiums, and that overall satisfaction with structural quality is virtually equal when comparing owners of conventional homes. It appears that when tenure is controlled for ownership, the type of structure, whether single-family or multi-family, is not a significant factor in satisfaction with structural quality. The inference from comments by owners was that the reputation of the builder and the developer may be a more significant factor contributing to satisfaction with structural quality.

There are several specific aspects of construction, both in materials and workmanship, which homeowners are dissatisfied with. These may indicate areas where cost-cutting is given priority over quality by builders, yet consumers might prefer higher quality rather than a small savings in cost. Consumers need to be aware of the most common problem areas in order to make a wise buying decision and help prevent unexpected repair expenses. Developers should be concerned and respond to areas where quality of materials and workmanship have been rated lowest by consumers.

Soil grading and drainage is the most frequent problem area and can also be one of the most serious. There is some overlap between the most frequent problem items and the lowest rated materials and workmanship. Interior finishing, exterior finishes, floor covering, landscaping, and plumbing are all repeated in more than one area of response. All of these are examples of areas that consumers and builders need to give more attention.

It is interesting to note that materials were rated significantly better in conventional houses than in condominiums, while workmanship was rated significantly better in condominiums than in conventional houses. It was also interesting that owners of conventional homes had problems with more structural elements than did owners of condominiums. Both consumers and developers need to be more concerned with soundproofing, windows, heating system, and roofing in condominiums. In conventional homes, a closer look needs to be taken at interior finishing, concretework, landscaping, brickwork, and wall construction.

Consumer inspection, professional inspections, and reviewing inspection reports cannot be relied on to adequately judge structural quality; however, professional inspection may contribute to satisfaction with structural quality for owners of condominiums. A written warranty is significantly related to satisfaction with structural quality for all owners combined.

More than 20% of new home buyers can expect to pay $100 or more in unexpected repair expenses soon after moving in, but they cannot expect the developer to cover the cost more than 35% of the time. The difference in major repairs (over $100) is not significant between condominium and conventional owners.

RECOMMENDATIONS

Educators need to continue providing consumer homebuying information through traditional sources including schools, private real estate related businesses, and government agencies. Emphasis on structural quality evaluation should be included. Content of programs can be enhanced by identifying specific rather than general problems and difficulties encountered, as well as consequences. In addition, educators need to utilize a more aggressive and comprehensive approach to maximize the benefits of mass media and free publicity, such as writing press releases and articles for local papers, or offering to do a segment on local television magazine programs.

Developers and industry-related professionals can be more responsive to consumer needs by providing more pre and post purchase information, follow-up service, and quality control during construction. Builders or their representatives could provide information on types of materials and construction methods used and why. Use of high quality materials and methods can be used to promote sales. Industry representatives should explain inspections, warranties, normal problems to expect, and proper maintenance. In the San Diego area, a soil study is essential, and a statement in layman's terms should be provided to every customer. Materials should be upgraded in known problem areas such as soundproofing, roofing, and plumbing. Customers can be offered more options for upgrading and package deals for items such as floor coverings, interior finishes, appliances, windows, doors, etc. Only reputable and licenced subcontractors should be used with on-site supervision of workers at all times to ensure quality control of workmanship. An after sale service program should be provided which could be a designated customer service inspector for consumers to call with problems, and/or a 30-, 60-, or 90-day followup visit or inspection. A free or low-cost comprehensive warranty for a minimum of one year should automatically be provided. If industry becomes more involved in self-regulation and problem resolution, it could prevent or reduce the need for further government controls.

Policy makers need to closely monitor problems related to rapid development and provide appropriate controls. Local policy makers should review building codes on a regular basis to determine if standards continue to be adequate, especially for noise insulation, plumbing, heating and cooling, and soil grading. More funding should be budgeted for recruiting, training, and hiring more and highly qualified building inspectors. An annual consumer survey of builder performance could be conducted and published. State policy makers can increase funding for enforcement of current rules and regulations and establish licencing procedures for both public and private building inspectors. Federal policy makers could work toward uniformity of real estate transactions regarding warranties and handling construction defects across state lines, and increase rather than decrease budgets for federal housing agencies which can assist consumers. Cost versus benefit to the consumer should be considered, but problems should not be allowed to become severe before action is taken.

Consumers need to invest a little more time and effort to evaluate this expensive and complex purchase. Selection of a reputable builder is probably the most important step to take. One way is to talk to other homeowners who may have already purchased in the development being considered. All important sources of information should be utilized including the sales agent, escrow and loan reps, educational courses, published information pamphlets, and housing and consumer agencies (such as Chamber of Commerce, Better Business Bureau, State Contractors' Licence Board, Department of Real Estate, City Building Operations and Permit Offices, HUD, FHA, VA, etc.). Prospective homebuyers should know which construction problems are most common and ask specific questions about them in addition to a visual inspection or walk-through.

Several areas for further research are suggested by this study. Identification of categories of major structural problems versus minor repair problems with a measure of perceived importance would provide a useful indicator of the need for stricter controls or enforcement. Perceived value received for price and whether owners would buy the same property with knowledge of structural problems prior to purchase would be of interest. Builder performance, repair work completed, and quality and timeliness of service would be valuable areas to study.

A longitudinal replication over a period of five or ten years would provide interesting followup data. Construction quality in different regions, states, and real estate markets could be studied for comparison. Specific groups could be targeted for separate analysis, including first-time versus repeat buyers, single persons versus married couples, females versus males, and special interest groups such as the elderly and retired. Cost-benefit analysis could be done on the effectiveness of private and public building inspections and improved noise insulation standards in multi-family housing.

Another question that deserves study is the operation and conduct of Homeowner Associations and Property Management companies, and how satisfactory and responsive they are to homebuyers. Housing satisfaction research should be repeated on a periodic basis to keep current on this very important consumer product. The practical application of this study and future research can contribute to the goal of better housing for everyone.

REFERENCES

Brink, S., and Johnston, K.A. (1979). Housing satisfaction--the concept and evidence from home purchase behaviour. Home Economics Research Journal, 7(6), 338-345.

Campell, A., Converse, P.E., and Rodgers, W.L. (1976). The quality of American life. New York: Russell Sage Foundation.

Davidson, M.J. (1981). An analysis of condominium consumer complaints in the State of Florida: 1975-1980. (Doctoral dissertation, Florida State University, 1981). Dissertation Abstracts International, 42, 1031A.

Hanna, S., and Lindamood, S. (1981). Components of housing satisfaction (Special Issue). In L.A. Guthrie, J. A. Brandt, and S.B. Badenhop (Eds.). Housing and Society Proceedings (pp. 24-26). Ames, Iowa: American Association of Housing Educators.

Harris, C. M. (1976). The measurement of quality in housing and its relationship to housing satisfaction. Housing Educators Journal, 3(2), 7-13.

Kain, J.F., and Quigley, J.M. (1970, June). Measuring the value of housing quality. Journal of the American Statistical Association, 45, 532-548.

Lane, S., and Kinsey, J. (1980). Housing tenure status and housing satisfaction. Journal of Consumer Affairs, 14(2), 341-364.

Norcross, D. (1973). Townhouses and condominiums: Residents likes and dislikes. Washington, DC: Urban Land Institute.

San Diego. Comprehensive Planning Organization. (1979, November). Rent control and condominium conversion study. San Diego, CA: Author (currently known as San Diego Association of Governments).

San Diego. Planning Commission. (1981). Housing element amendment to the progress guide and general plan. San Diego, CA : Author.

San Diego. Planning Commission. (1985, July). Housing element. San Diego, CA: Author.

San Diego County. Department of Planning and Land Use. (1982, December 1). Housing element (Part IX: San diego general plan--1990). San Diego, CA: Author.

Smith, G.J. (1987, February 1). The county and proposition 13. San Diego Union, p. F-14.

Study outlines today's new home buyers. (1987, February 15). San Diego Union, p. F-45.

U.S. Department of Housing and Urban Development. (1975, July). HUD condominium/cooperative study (Vol. 1). Washington, DC: U.S. Government Printing Office.

U.S. Department of Housing and Urban Development (and Federal Trade Commission). (1980, August). A survey of homeowner experience with new residential housing construction. Washington, DC: U.S. Government Printing Office.

ENERGY CONSERVATION: DISCUSSION

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I was asked to discuss the two papers presented in this session. The first paper is "Determinants of Energy Conservation activities" authored by Carol B. Meeks and the second paper is "Characteristics of Consumers Who Save and Dissave Energy After Installing Energy-Conserving Devices" by Molly Longstreth and Michael Topliff. They are interesting papers. I am particularly delighted to read these papers because, I believe, that various energy conservation efforts have helped greatly to alleviate the energy problems in the U.S. and the world, and truly, we should know more about the behavioral factors of adopting and implementating energy conservation measures.

These two papers can be placed in a nice and logical sequence. Meek's paper deals with the adoption (or installation) of energy conservation devices such as insulation while Longstreth and Topliff investigated whether or not consumers kept their commitment of conserving energy once they installed these conservation devices. The two papers share one common feature, and that is; they both used a large survey database. This attribute surely enhances the credibility of the empirical results.

COMMENTS ON THE PAPER BY MEEKS

The study attempts to analyze the factors affecting household energy conservation activities reflected in the presence and addition of insulation. A sample of 37,687 single family homeowners from the 1980 annual housing survey was used. Under the chosen method of the linear discriminant analysis, the study was reasonably well executed. My comments focus on methodology, model specification and empirical results.

Methodology

Meeks used a linear discriminant function to classify households into particular groups (such as those with and without insulation), using a set of discriminating variables (such as income and household age, etc). The discriminant analysis refers to a statistical procedure for analyzing whether or not a discriminator such as income can be used effectively as a basis to distinguish a household who engaged in a conservation activity from those who did not. More specifically, it is a classification analysis. Even though the discriminant analysis is a relatively simple statistical method, it is not, at least to me, as common as other applied statistical tools such as least square regression or the analysis of variance (ANOVA). Therefore, it would be helpful if the author can summarize, in more detail, the estimation and hypothesis testing involved in the discriminant analysis. For example, in the discriminant function, the dependent variable is defined as the discriminant score. How is this variable measured? How does the discrimination process work? The author did not provide any methods for evaluating the estimation results. Are there appropriate tests such as X^2 test for measuring the overall goodness of fit? There is one innovative aspect of the methodology used in the paper. That is the random separation of the entire sample into one group (95%) for estimation and the other group (5%) for validation. Even though the particular percentage is rather subjective, the approach remains recommendable.

There is nothing wrong with the use of the discriminant analysis. However, given the objectives of the study, it would be desirable to use other more structural models like Probit or Logit models. These models would not only be able to determine statistically the relative importance of each of the relevant factors affecting conservation activities, they can also be used to predict the probability of adopting the conservation measures. It seems appropriate to treat the possible participation in these conservation activities in a probabilistic context.

Model Specification

Although the discriminant analysis does not provide the interpretable quantitative relationships between the dependent and independent variables like the regression analysis, it still embodies a causal relationship. It seems, to me, questionable to use the other energy saving features such as storm doors and windows as the discriminators. My concern has to do with the fact that these are alternative energy conservation activities. They may be complementary or competitive (or substitutes) to the two conservation activities (presence and addition of insulation) analyzed in the study. They maybe are substitutes because, for example, insulation and storm doors can both conserve energy. But the presence of one is likely to reduce the effectiveness of the other. They may be complementary because an installation of insulation may induce the installation of storm doors or windows. Given the budget constraint, households are likely to choose among these alternative conservation measures. The inclusion of "other" energy saving features would distort the causal relationship between the dependent and independent variables in the model. It would also complicate the assumption of the error term. Specifically, the presence of storm doors and windows is likely affected by other independent variables (such as income, age of house, etc). Therefore, they are not truly independent.

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It would be more appropriate to incorporate the other energy saving measurers to form alternative energy conservation activities. There would not be just two as specified by the author. One can specify (1) presence of insulation only, (2) presence of insulation and storm doors and windows, and (3) presence of storm doors and windows only, etc. Of course, the number of combinations will multiply very quickly. One should work with the most important and relevant conservation options.

Empirical Findings

I would raise two questions.

1. As recognized by the author, the productive power of the estimated model is only moderate. For presence of insulation, the accuracy of predict is about 75% while it is about 61% for addition of insulation. This, of course, suggests that additional discriminators are needed.

2. The meaning of the coefficients of the discriminatory variables (Tables 5 and 6) is not very clear to me? Are there expected signs for these variables? For presence of insulation, all variables has the same sign for the two mutually exclusive groups (insulation vs no insulation). For addition of insulation, only the age of head variable has the opposite sign for the two mutually exclusive groups (insulation added vs no insulation added). Are these opposite signs expected? There are no standard errors or t-ratios reported. So one can not evaluate the statistical significance of these coefficient estimates.

COMMENTS ON THE PAPER BY LONGSTRETH AND TOPLIFF

Longstreth and Topliff's maintained hypothesis is that once consumers installed energy conservation devices, they do not necessarily practice conservation ethic. For example, after consumers added insulation to their houses, they may feel that they can keep the thermostat higher than before the conservation devices were installed for economic rather than ethical (such as helping the country) reasons. Energy conservation is aimed to increasing energy utilization efficiency not to decreasing the standard of living. However, it is hard to believe that consumers are not concerned about the pay back for the capital investment of these conservation devices. Just take a look of the aggregate statistics. In the United States, the total energy consumption in the residential and commercial sectors was 25.24 QUADs (10^{15} Btu) in 1981, 25.63 QUADs in 1982, 25.61 QUADs in 1983 and 25.62 QUADs in 1984. There are apparent short-run fluctuation in energy consumption. But by and large, the aggregate energy consumption did not change much during 1981-84. (It actually decreased from 1982 to 1984). These are strong indicators that the energy conservation measures have been working in the U.S. Therefore, I remain skeptical about the authors' findings that a high proportion of consumers who had installed energy-conserving devices consequently dissaved. I will discuss my reservations with the following comments on methodology and model specifications.

Methodology

The authors conducted rigorous statistical analyses. The use of Logit is appropriate. A brief summary of the Logit model would be useful for readers who are not familiar with the method (similar comment to the previous paper). I also find their definitions of "saving" and "dissaving" to be creative and innovative.

It seems to me, the model has two major shortcomings. First, the model maybe too aggregate to achieve the objectives of the study. It would require a more disaggregate analysis at the end-use level to detect the true consuming behavior of the energy consumers. In this study, household energy consumption is measured by the sum of energy consumed for all end-uses (space heating, cooling, water heating, TV, appliances, etc.) divided by degree days (I presume the sum of heating and cooling degree days). Therefore, the dissaving as defined may not, for example, result from the increase in energy use for space heating after installation of storm windows but from the purchase of a new clothes dryer. If this is the case, it is not a dissaving. How about the same total degree days in 1981 and 1983 observed for two households. For one household, the cooling and heating degree days remained the same between the two years. But for the other, it had higher heating degree days but lower cooling degree days. Consumption behavior for heating and cooling may be different. The current model is not capable for sorting out these important behavioral elements. The empirical results would be much more credible if the model is constructed at the end-use level (unfortunately the RECS data base remains inadequate for this purpose).

The second short-coming is that the model captures only the short-run consumption pattern. In the short run, there are many disturbances such as climate and the timing of the installation of the energy conserving devices. Were these devices installed in earlier months or later months of the specified period (between March 1981 and April 1982)? This could make a lot of differences in explaining the short-run fluctuation of the energy consumption.

Model Specification

I have two comments. First, two energy price variables were used in the model. One is the average price for the first period (1980/81) and the other is the difference between the two periods. There is no theoretical basis for the expected sign for the first price measure. It is, therefore, no surprise that this variable did not have much explanatory power in the model. The second price measure produced mixed results. The use of the difference has one major shortcoming. Consider the two numerical examples:

> (1) 20-21 = 1 and (2) 10-11 = 1 (average price in 1983 minus average price in 1981).

The two examples have the same difference but notice that the first case represents a 4.8% decrease and the second a 9.1% decrease. Perhaps, it is more appropriate to use the relative (%) change in prices between the two periods. Also, it is not clear whether or not the authors used real or current energy prices. The real prices should have been used.

Second, one important set of variables is missing in the model. Specifically, the model should include the changes in the stock of appliances or energy using equipments as explanatory variables. A new purchase of a TV set in 1982/83 would increase electricity consumption despite the installation of energy conservation measures in 1980/81. It would seem essential to have these variables to capture the impacts of the additions of new appliances on energy consumption in the model.

SUMMARY

These are two very interesting papers. They contain much useful information related to adoption and implementation of important household energy conservation measurers. Both papers also contain a thorough literature review. There are however rooms for improvement in model specification and statistical analysis.

CREATING A CONSUMER PROTECTION MANUAL FOR RHODE ISLAND: STUDENTS LEARN PROFESSIONALISM WHILE PROVIDING A SERVICE

Anne M. Christner, University of Rhode Island[1]

A 38 page Consumer Protection Manual was prepared and published by a specially created class of senior consumer affairs majors. The manual describes consumer rights and responsibilities embodied in federal and state law as well as notable gaps in the law. Covered topics include Retail Sales, Banking and Credit, Real Estate, Food, Motor Vehicles, Insurance, Miscellaneous Goods and Services, Consumer Complaints, and Agencies Offering Answers and Help.

The project idea came out of a Consumer Protection class assignment to research and report on a law. The students were surprised at how little they knew about the law. Additionally, some class members had or were currently serving in field experiences requiring answering consumers' questions or trying to help them seek solutions to problems. They found there was no central place to find the answers. Thus, we decided the state could use such a resource.

Nine seniors from that class enrolled in a Special Problems course the following semester in order to carry out our mission. As instructor, I developed the course objectives and grade criteria, but the students were to be in charge. The course objectives were as follows:

TASK OBJECTIVES

1) To locate and review previously published RI consumer law and/or rights materials.

2) To fill in the holes with appropriate and updated information needed for a RI consumer protection manual.

3) To write the manual in lay language with examples provided for clarity.

4) To locate and solicit funding for printing and distributing the finished product. (I arranged a meeting with a campus development office representative to help get them started.)

PROCESS OBJECTIVES

1) To work cooperatively as a group in making decisions, dividing labor, and critiquing the quality of the work submitted.

2) To work independently as assigned or volunteered so that all plans and others' work can proceed as scheduled.

3) To learn methods of legal and organization research at the state level. (Again, I arranged a session with a campus government librarian to familiarize us with the resources and strategies for this arduous task.

4) To learn grant seeking and writing skills which includes needs assessment and persuasive writing.

PROJECT ACCOMPLISHMENTS

1) A finished manual whose printing cost was funded by Student Affairs and the Dean of our college. (A number of funding sources were pursued unsuccessfully, but one student found and procured the Student Affairs source. I got the Dean's support simply because the school year ended too soon.)

2) Students learned new professional skills such as grant seeking, state level legal research, and word processing.

3) Students demonstrated (more for themselves than for me) professional skills they already had developed: time management and organization, negotiation, networking, responsibility to self and to others, research and writing skills.

4) A greatly needed service was rendered to the state and to future consumer affairs students. (700 of the 1000 copies we had printed were distributed to all the public libraries in the state as well as to key government and private organizations. Others will be used by students enrolled in the Consumer Protection course.)

5) The least tangible yet most exciting accomplishments were the pride and confidence the students gained through this project. The pride came not only from the finished product, but the realization that they had done so much fairly independently in such a short time frame. (As I have discussed in a separate paper on Career Development for Consumer Affairs students, I am convinced many of our students harbor overly modest assessments of what they can do in the professional world. I hope that is less true for these nine students as a result of our special project.)

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[1] Assistant Professor of Consumer Studies

A DECISION MATRIX COMPUTER PROGRAM

Sherman Hanna, Ohio State University[1]

ABSTRACT

A program for MSDOS-compatible computers was written to help give students insight into decision-making under risk. The best action is calculated for each of six decision rules, including Maximax, Maximin, Expected Value, and Expected Utility for a range of levels of relative risk aversion. The program is user-friendly, and has a novice mode.

Evaluation of decisions involving risk is difficult, with information about probabilities and outcomes often not available. There are a variety of possible decision rules which can be used including the Expected Value rule and the Maximin rule. For many decision rules, it is useful to set up a decision matrix with possible states of the world arranged across the top of the matrix and possible actions by the decision maker arranged down the side of the matrix.

Teaching students to use decision rules is somewhat difficult, especially if one assigns students to seek out real examples. Often, real examples cannot be neatly described as two states of the world with two actions, so computing decision rules can be burdensome. A computer program can ease the problems of computation while still providing students with applications of decision rules. An existing program was revised, incorporating additional decision rules, including utility maximization of the utility functions of the form $U = W^x$, $U = \ln (W)$, and negative exponential $U = 1 - \exp(aW)$. An option of either using expert or novice modes was incorporated. Six decision rules (Intriligator 1971; Maynes 1976) are automatically calculated:

1. MAXIMAX. The Optimist's Rule. Choose the action that has the best possible outcome.

2. MAXIMIN (MINIMAX). The Pessimist's Rule. Choose the action with the least bad worst outcome.

3. MINIMAX REGRET. Rule for the Regretful. Choose the action with the least bad regret.

4. LAPLACE. Ignorance Rule. Assume that all states of the world are equally likely. Choose the action with the highest expected outcome.

5. EXPECTED VALUE. Wealth Maximizing Rule. Choose the action with the highest expected value, using estimates of the probability of each state of the world.

6. EXPECTED UTILITY. Utility Maximizing Rule. Choose the action with the highest expected utility, using estimates of the probability of each state of the world. In the novice mode, the best choice based on expected utility maximization is automatically calculated for each of 10 levels of relative risk aversion (Kimball 1988). When printouts are requested, the certainty wealth equivalents (wealth level with no uncertainty which would produce the same utility as the expected utility of the action) of the best action and the worst action are printed.

Example of output from the Payoff Program: Initial wealth = $100,000. Action 1: do not buy insurance on $5,000 car. Action 2: buy full insurance on $5,000 car. State 1: no theft(99% probability) State 2: theft of car (1% probability). Insurance company has 20% load, so charges average policy buyer $60, will pay out an average of $50 per policyholder.

```
                           States of the World
                                1           2
                            No theft      Theft
Action 1 (do not buy)       $100,000     $95,000
Action 2 (buy)                99,940      99,940
Probability                      .99         .01

Maximax:  Action 1 is best.
Maximin:  Action 2 is best.
Minimax Regret:  Action 2 is best.
Laplace:  Action 2 is best.
Expected Value:  Action 1 is best.
Expected Utility:                Relative   Best
                            Risk Aversion   Action
U=square root(Wealth)                 0.5    1
U=log(Wealth)                         1.0    1
Neg.Exponential,at initial wealth: 3.0    1
("average" relative risk aversion:(Kimball 1988))
Neg.Exponential,at initial wealth: 6.0    1
Neg.Exponential,at initial wealth:10.0    2
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The program may be obtained for IBM compatible computers by sending a stamped, self-addressed envelope with a formatted 5.25 or 3.5 inch disk. The program is written in compiled BASIC (Zedcor), and will execute directly by typing PAYOFF and pressing the return key. The program includes options for a considerable amount of explanation and prompting users for appropriate responses.

REFERENCES

1. Kimball, M. S. (1988). Farmers' cooperatives as behavior toward risk. American Economic Review, 78: 224-232.

2. Maynes, E. S. (1976). Decision-Making for Consumers, New York: Macmillan Publishing.

3. Intriligator, M. D. (1971). Mathematical Optimization and Economic Theory, Prentice-Hall.

4. Poole, Lon (ed.) (1981). Practical Basic Programs: TRS-80 Level II Edition, Berkeley: Osborne/McGraw-Hill.

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FAMILY MONEY MANAGEMENT: HOW ONE-EARNER AND TWO-EARNER FAMILIES HANDLE MONEY

Vicki Schram Fitzsimmons, University of Illinois[1]

The purpose of this study is to investigate how one-earner and two-earner families handle money. In a previous study, this researcher found that families in the full-nest stage were more likely to have joint responsibility for selected financial decisionmaking tasks than they did as newlyweds, possibly a reflection of wives' increased labor force participation or changing societal roles. The wife tended to have the main responsibility for paying bills, a clerical task which could be considered part of her homemaker role. Assuming that two-earner families are more egalitarian than one-earner families, it is hypothesized that two-earner families will be more likely to have joint responsibility for money management tasks than one-earner families.

Data are from "A Panel Study on Consumer Decisions and Asset Management" which was established in 1968 with periodic data collection through 1981. Only data from the 1981 wave are used. Initial sample size was 311 newlywed couples, with husbands aged 30 years or younger; sample size following attrition was 209. Of these, only couples with spouse present and husband employed were included in this study with a final sample size of 161 couples.

Money management variables were measured as who had the main responsibility for various tasks: husband, wife, or both. Chi-square analysis was used.

In general, there was a greater percent of joint responsibility for money management tasks in two-earner families than in one-earner families. When joint responsibility was the largest category for both families, a larger percent of two-earner families answered with this response than one-earner families. Significant differences were found at the .05 level for: (1) who decides disposition of surplus money, and who looks after household's monthly expenditures for (2) clothes, (3) transportation, (4) insurance, and (5) miscellaneous expenses. Joint responsibility was the largest category for who decides disposition of surplus money and who handles money for transportation and miscellaneous expenses in both families. Joint responsibility for insurance expenditures was more prevalent in two-earner families, while wife responsibility was more prevalent in one-earner families. In both families, the wife had the main responsibility for clothes expenditures but more so in one-earner families. Thus, two-earner families share responsibility for money management. Wives in one-earner families are more likely to have the main responsibility than are wives in two-earner families. One limitation of this study is that data on who makes savings and investment decisions were not available. Analysis of such data would help to determine the extent of egalitarianism regarding money management in both types of families.

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[1] Assistant Professor

RESOURCE MANAGEMENT AND EMPLOYMENT STATUS OF FARM FAMILIES

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MaryAnn Paynter, University of Illinois--Urbana-Champaign[2]

This research is based primarily on the Illinois section of the S-191 regional research project, Farm Wife's External Employment, Family Economic Productivity and Functioning. Other states participating in the project were Alabama, Kentucky, Louisiana, Nebraska, North Carolina, and Virginia.

Families are encouraged by consumer educators to reallocate resources in order to alleviate financial problems. This resource reallocation is most evident in the case of farm families. One or more family members has taken external employment, especially in this decade, as a way to save the family farm. The objective of this research is to explore how perceptions of availability of resources are related to employment status of farm families.

ILLINOIS DATA

Data for 226 husbands and wives, who live on family farms in Illinois, are available for 1985. Mean family size was 3.3 persons. Wives were 49.9 years old on the average, and husbands 52.3. Couples averaged 28.2 years farming. All families were active farmers. One or both spouses were employed at nonfarm jobs in 49 percent of the families.

EXTERNAL EMPLOYMENT STATUS OF 226 FARM FAMILIES	NO.
Both spouses employed	34
Wife only employed	46
Husband only employed	31
Neither spouse employed	115

Respondents were asked to express feelings about resources (e.g., time, energy, money, and health). They also were asked how often events which influence resource management occurred in their families.

HOUSEHOLD PRODUCTION

Significant relationships ($p \leq = .05$), using chi-square analysis, were found between employment status of farm couples and perceptions about resources expressed individually by husbands and by wives. In general, husbands were most dissatisfied with time to do things when both spouses, or only the husband, had nonfarm employment. They tended to be most satisfied with the way the farm runs when neither spouse or the wife only was employed in nonfarm work. Wives were most satisfied with the way both the farm and house runs when no one had external employment or only the husband was employed. Full-time homemakers were the most satisfied with their housework, while husbands who were full-time farmers most often felt too tired or ill to do housework. When the wife only was employed or both spouses had nonfarm work, wives were more likely to disagree that they would rather hire things done than do them.

GENDER ROLES AND HEALTH

Other variables significantly ($p \leq = .05$) related to employment status included perceptions about gender roles and health. Employed wives were more likely to disagree that a married woman's most important task is to take care of her husband. Wives were most satisfied with husband's health when he was employed off the farm. Husbands were most satisfied with own health, wife's health, and family health when both spouses had external employment.

FINANCIAL SITUATION

In addition, employment status of farm couples and perceptions concerning the financial situation were significantly ($p \leq = .05$) related. When husbands were the only ones employed off the farm, they most often felt time use was the most important indicator of family well-being. Wives were most dissatisfied with farm income when they had external employment and most satisfied with farm income when the husband was the only one with a nonfarm job. Wives also made more final financial decisions when they were employed.

Family size, an indicator of resource needs, also was significantly related to employment status. Large family size was associated with one or both spouses having external employment and small family size with full-time farming.

Interestingly enough, no significant relationships were found between external employment status and how frequently either spouse felt in control of life, depressed about life in general or with their financial situation, or satisfied with spousal relationships. In addition, employment status was not significantly related to perception of income adequacy for either spouse.

Farm men and women seem to make trade offs among their basic resources when they participate in external employment. These findings help us understand the interface of external employment and resource management of farm families.

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SIGNIFICANCE OF FRIENDS AND NEIGHBORS AMONG NEVADAN RURAL ELDERLY

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University of Nevada-Reno

Importance of the Problem:

As the American population ages, attention is focused on the role of friends and neighbors as support systems especially as the trend of retirees to move to rural areas with limited community support systems continues. Nevada has had a number or such communities appear in the past few years and the focus of this study, the Topaz Lake Area located in northwestern Nevada. Are Friends and neighbors supplying needed emotional and physical support to their retired neighbors in these isolated rural areas?

Null Hypotheses:

The null hypotheses are founded on Lee's Social Network Theory. There are no significant differences between those with low or high interaction with friends and neighbors and the following variables: sex, age, marital status, income, planned length of stay in the community, proximity of kin, perceived life satisfaction, and perceived life satisfaction among former rural and urban residents.

Methodology:

The research utilized data from the Nevada Agricultural Experiment Station Project 902, "Growing Older in a Rural Retirement Area: Family and Community Considerations". Community researchers contacted all households in the Topaz Lake Area and obtained surveys from 209 that had one or more individuals 50 years of age and older for a total of 331 individual respondents. Subjects were given a cumulative score on friend and neighbor interaction from three questions from the survey: "How often do friends visit your home" and "how many friends do you talk to about personal matters".

Findings:

Using chi square with $p<.05$, significant differences were found in the three following categories: income, perceived life satisfaction today, and perceived life satisfaction today of the former urban residents.

Conclusions:

Those in the higher income group had higher friendship interaction than expected. Those that had high friendship interaction were more satisfied with their lives than those who had low friendship interaction, which is especially true for the former urban residents. The variables that proved not to be significant (sex, age, marital status, planned length of stay in the community, proximity of kin, and life satisfaction among former rural residents) are important to look at since there was no significant difference between them and interaction with friends and neighbors.

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1 Graduate Student
2 Professor

USING PERSONAL AND ENVIRONMENTAL RESOURCES TO MANAGE STRESS

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Introduction:

Individuals living in small, isolated, communities experience stressors which may be unique to rural life as well as those stressors which occurr regardless of place of residence. When an individual experiences stressor events a level of tension is created. This triggers the use of personal and environmental resourses as a means of managing that tension, controlling stress, and maintaining a sense of well being.

There is a strong correlation between tension and stress, therefore the purpose of this study was to use measures of tension, personal resources, and environmental resources to predict levels of stress. Tension was measured by the number of life events an individual had experienced in the past year. Personal resources used in the analysis were satisfaction with family life, satisfaction with family finances, age, gender, number of years in the community, level of education, problem solving coping score, support seeking coping score, and avoidance coping score. Environmental resources used were number of community resources used, level of social interaction, and annual household income. Stress was measured on Cohen's Perceived Stress Scale.

Methodology:

The data used in this study were taken from the Nevada portion of the Agricultural Experiment Station Regional Research Project, W-167, "Coping With Stress: Adaptation of Nonmetropolitan Families to Socioeconomic Change". A mail questionnaire was sent to 800 randomly selected households from four rural communities in Nevada. Respondents (N=342) answered questions relating to personal problems, personal demographics, satisfaction with family life, financial situation, and use of community services.

Results and Conclusions:

In the regression analysis satisfaction with family life was the principle factor in explaining variance in stress scores. Other statistically significant factors were tension, age, and satisfaction with family finances. Together, they explained 25 percent of the variance in stress scores. Although the remaining nine factors were not individually significant in explaining variance in stress scores, all entered the regression equation. In order of entry they were: gender, years in the community, number of community resources used, problem solving coping score, support seeking coping score, social interaction, level of educaion, avoidance coping score, and total income (R^2 =.28).

It was concluded that individuals residing in isolated, economically depressed towns in rural Nevada are survivors. They have lower than average stress scores, stress producing tension having been mitigated by such personal resistance resources as satisfaction with familiy life and with their finacial situation. Since thirty two percent of the variance in stress scores was unexplained, further study is needed to identify additional environmental and personal resistance resources which enhance an individual's ability to manage tension, reduce stress, and maintain well being.

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ADOLESCENT SPENDING AND SAVING PATTERNS

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Family economists and professionals in the field of human development are concerned about economic socialization [1] processes of children and youth in the United states. Employed adolescents can earn a great deal of money and are allowed to spend their earnings for discretionary items. These spending patterns may result in "premature affluence" [2] and prove to be problematic.

PURPOSE

The purpose of this study was to examine the spending and saving patterns of adolescents and identify student, family, and economic characteristics related to these behaviors.

DATA BASE

The 1982 sophomore cohort of the High School and Beyond Study (HSB) of students in U.S. secondary schools was used. Responses of 1,619 employed high school seniors and their parents were analyzed.

The HSB survey asked students how they spend their earnings. Responses included six options: school supplies; contributions to family; car expenses; buy or do things; save for college; or save for another purpose. Respondents designated the amount as "none," "a little," "about half," and "most." Sixty-one percent spent none of their earnings for school supplies and 73 percent indicated no contributions to family income. Sixty percent reported spending one-half or most of their earnings to "buy and do things" and 40 percent reported spending one-half or most of their earnings for car expenses. Approximately 50 percent reported no savings for college or other purposes.

METHODOLOGY

Three indexes were developed and divided into quartiles to represent levels of contribution. A savings index combined the two purposes for saving; a necessity index combined school expenses and family contributions; and a discretionary index combined "buy and do things" and car expenses.

Factors hypothesized to be related to the student's choice to save, spend for necessities, or spend for discretionary items included student characteristics, student attitudes and behaviors, family characteristics, family attitudes and behaviors, and economic factors. Relationships were tested using the Chi Square statistic of significance ($p<.05$) and the Somer's D measure of association.

FINDINGS

Student spending patterns were diverse. However, spending tended towards discretionary purchases with 14 percent spending most of their earnings on discretionary items and only 1.5 percent spending nothing on discretionary items. One percent of the respondents saved most of their earnings and 26 percent saved none of their earnings. Only 0.3 percent spent most of their earnings on necessities and 50 percent spent no earnings on necessities.

Student characteristics, attitudes and behaviors, family characteristics, family attitudes and behaviors, and economic factors were related to choices to save, spend for necessities, or spend for discretionary items. Factors significantly related to all three indexes included: student variables of gender, race, score on a series of cognitive abilities tests, high school grades, orientation towards success in the work world, and family socio-economic status.

CONCLUSIONS AND IMPLICATIONS

These findings support the possibility that adolescents in this country are socialized into patterns of "premature affluence." A significant proportion of the students spent most of their earnings on discretionary items and very little on necessities and savings. Students who ranked high in discretionary spending were males with a positive work orientation, who valued money and their jobs, and were rated by parents as hard workers. These students were from families with higher incomes and socio-economic status and had two parents and younger fathers.

Parental attitudes and behaviors were related to student behaviors, evidenced in the relationship between parental and student saving. Saving was also related to plans for post secondary education.

Adolescents who spend a large share of their earnings on necessities were from households with fewer resources, evidenced by lower family income, renter status, lower socio-economic status, lower parent educational level, residence in urban areas, family financial problems, and one parent. These findings suggest that "premature affluence" may be limited to those in higher economic groups.

REFERENCES

1. Stacey. B. G. (1982). Economic socialization in the pre-adult years. British Journal of Social Psychology. 23, 159-173.

2. Bachman, J. G. (1983, summer). Premature affluence: Do high school students earn too much? Economic Outlook USA, 64-67.

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EFFECT OF SPOUSAL COMMUNICATION ON HOUSEHOLD SATISFACTION WITH FINANCIAL SITUATION AND QUALITY OF LIFE

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The main purpose of this study was to identify the causal relationships between spousal communication, satisfaction with financial status and quality of life. Data for this study were obtained through personal interviews of 123 money managers from Marshalltown, Iowa. Results show that money managers who were satisfied with their financial status communicated less to their spouse while those who felt deeply in debt communicated more. Economic factors were also found to be the main predictors of satisfaction with financial status and quality of life.

Family economics stability and security including the management of resources have been identified as important priority areas for new initiatives in home economics research (Abdel-Ghany & Nickols, 1984). In their study of research that has been done in the family economics area from 1972-1982, Abdel-Ghany et al., (1984) concluded that though a wide variety of areas have been covered, some topics are conspicuously absent. The present research intends to focus on one of the topics that have not been widely researched on, namely spousal communication about money matters and how this affects satisfaction with financial status and quality of life.

Communication is an important component of family resource management system (Deacon & Firebaugh, 1981). Effective communication is essential for sharpening goals, clarifying standards involving more than one person, and for discussing satisfaction or dissatisfaction with outcomes (Deacon & Firebaugh, 1981). Communication may be viewed as how people exchange feelings and meanings as they try to understand one another and come to see problems and differences from the other persons point of view. It is the process of transmitting feelings, ideas, facts, and attitudes between human beings (Bienvenu, 1970). Communication has been studied in many different ways, for example, communication style (Norton, 1978), amount and content of communication (Gilbert, 1976; Swift, 1985). Some socioeconomic factors have been found to be related to communication. These include household size (Miller, 1976; White, 1983); employment status (Savage, 1980; White, 1983); education (Savage, 1980); and income (Sabatelli et al., 1982).

A few studies have been done to determine what influences satisfaction with financial situation of households. Winter, Bivens, and Morris (1984) analyzed the factors that affect the changes in family's financial situation, and the effect of reported changes on their satisfaction level. They found that households who reported a high level of income were more satisfied with their financial situation than those who reported low levels of income. Size of wealth and employment also contributed to high satisfaction with financial situation. Berry and Williams (1987) found that satisfaction with income increased with family income and perceived future financial security.

Analyses of the sources and determinants of quality of life has been a central concern of social scientists. Some researchers have studied social indicators of quality of life while others have studied economic indicators (Abdel-Ghany, 1977). Other researchers have used subjective indicators (Campbell, Converse, & Rodgers, 1976). Quality of life has been found to be predicted by various socioeconomic factors. Age has been found to be positively related to satisfaction with quality of life (Campbell et al., 1976; Savage, 1976; Ortiz & Arce, 1986). Strumpel (1973) found a significant relationship between individuals income and a sense of well-being. Spreitzer and Snyder (1977) found that health and economic sufficiency significantly predicted satisfaction with quality of life. Inglehart and Rabier (1986) found that marital status and educational level were positively related to subjective well being of households. Inglehart and Rabier (1986) make an important point that the indicators of quality of life may vary depending on one's social background and affluence of the society in question.

Communication has been found to be significantly related to quality of life. Berry and Williams (1987) found that the higher the amount of communication, the lower the perceived future financial security and the higher the satisfaction with quality of life. Another finding was that agreement over family finances contributed to higher satisfaction with quality of life, through marital satisfaction as an intervening variable. Financial management procedures and networth were also found to be positively related to satisfaction with quality of life

PROCEDURES

Data

The data for this study were obtained through personal interviews in Fall of 1986 from Marshalltown, Iowa. The interviews were conducted by trained interviewers under the supervision of the Statistics Laboratory, Iowa State University. The original sample consisted of 164 cases. Out of these, 132 cases were interviewed and nine of them were excluded from the study due to incomplete information. The sample size was reduced to 123 cases. This study deals with only married respondents reducing the sample size to 89. The unit of analysis was the household's money manager.

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[1] Olive Mugenda is a graduate student and Tahira Hira is an Associate Professor in the Department of Family Environment. Alyce M. Fanslow is a Professor in the Department of Family and Consumer Sciences Education.

The majority of the respondents were female (63 percent), had a mean age of 47 years and an average of 12 years of education. Most money managers were employed part time or full time (69 percent) and the average number of household members was three. For these households, the mean net income was $28,000 per year and their mean networth was $125,000. The respondents reported an average of $3,840 as the proportion of income saved in 1986.

Variables

Independent variables. The independent variables in the study included demographic factors like age, education, household size and home ownership. Economic factors included income, networth, proportion of income saved in 1986 and monthly debt payments. The subjective variables were the money managers' debt perception, presence or absence of financial difficulties and financial goals.

Dependent variables. The dependent variable in the first regression was spousal communication, which was one of the proposed intervening variables and an independent variable in the second and third regression models. Spousal communication was measured by asking the respondents how frequently they communicated to their spouses about money matters. The responses were recorded on a 5-point Likert scale: (0) Never, (1) Seldom, (2) Sometimes, (3) Often, and (4) Very often. Satisfaction with financial status was another dependent variable which was also an intervening variable. This variable was measured by making an index from six items. The respondents were asked: how satisfied are you with your (1) present level of living, (2) amount you have in savings, (3) ability to stay out of debt, (4) ability to pay back what you owe, (5) current level of assets, (6) how prepared financially for emergency expenses. The responses were recorded on a 5-point Likert scale: (1) Extremely dissatisfied, (2) Dissatisfied, (3) Neutral, (4) Satisfied, (5) Extremely satisfied. The third dependent variable was satisfaction with quality of life. The respondents were asked, "How satisfied are you with your overall quality of life?" The answers were also on a 5-point Likert scale from extremely dissatisfied to extremely satisfied.

The descriptive statistics show that the results of satisfaction questions were skewed toward the satisfied end of the scale. For example, 85 percent of the respondents responded that they were satisfied or extremely satisfied with their quality of life. Results on spousal communication show that 78 percent of the respondents reported that they communicated often, or very often, about money matters with their spouses.

Analysis

Pearson correlation was used to show the direction and strength of the relationship between variables. Path analysis was used to test the causal relationship between variables. Path analysis is concerned with estimating the magnitude of the linkages between variables and using those estimates to provide information about the underlying causal processes (Berry & Williams, 1987). Independent variables which were hypothesized to have significant paths to the dependent variables were chosen based on the existing theory, review of literature and the Pearson correlation results.

RESULTS AND DISCUSSION

Figure 1 shows the Pearson correlation results. The results show that couples who have high income, and networth and are employed communicated less about money matters. On the contrary, couples who reported presence of financial difficulties and who perceived themselves as being highly indebted reported more communication about money matters. Age was positively correlated with satisfaction with financial status ($r=.24, P<.05$) denoting that older money managers were more satisfied with their financial status. This finding has been supported by other financial satisfaction studies (Spreitzer & Snyder, 1977).

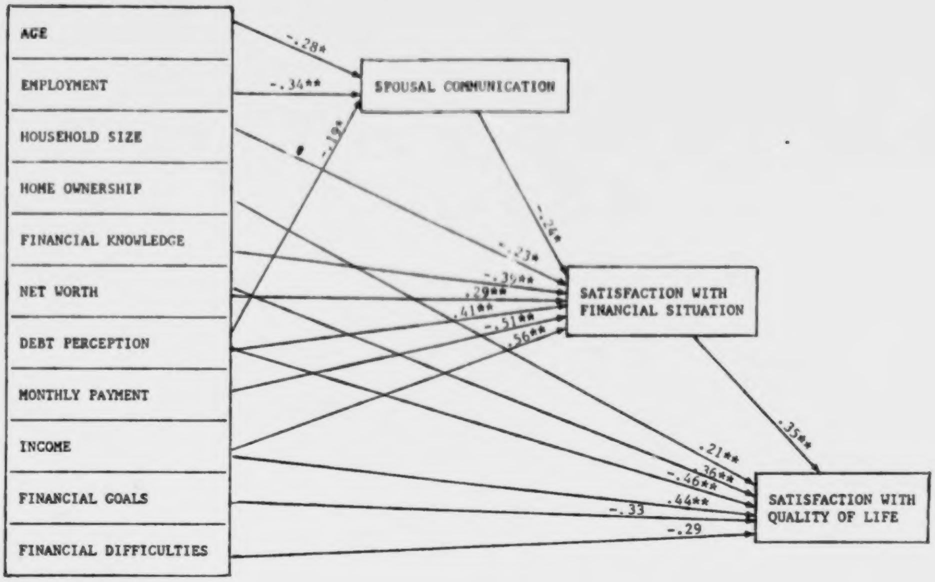
Results also show that the larger the household size the less satisfied the money managers were with their financial status ($r=-.35, P<.05$). Other factors which are positively related to satisfaction with households financial status were networth ($r=.34, P<.05$), savings ($r=.42, P<.05$) and having little or no debt ($r=-.65, P<.05$). Home ownership and income were positively related to satisfaction with quality of life showing that households who are home owners and who have high income are more satisfied with their quality of life.

Spousal communication was negatively related to satisfaction with financial status showing that money managers who felt more satisfied with their financial status communicated less with their spouses ($r=-.24, P<.05$).

Correlation results on quality of life show that older money managers and home owners were more satisfied with their quality of life while those who perceived themselves as being highly indebted were less satisfied with their quality of life.

Table 1 shows the results of the path analysis model. Age and employment are negatively related to spousal communication. This shows that the older, employed money managers communicate less with their spouses. Money managers who are not highly indebted also communicate less with their spouses.

FIGURE 1. Path Analysis Model Showing the Causal Relationships Between Exogenous and Endogenous Variables


AGE
EMPLOYMENT
HOUSEHOLD SIZE
HOME OWNERSHIP
FINANCIAL KNOWLEDGE
NET WORTH
DEBT PERCEPTION
MONTHLY PAYMENT
INCOME
FINANCIAL GOALS
FINANCIAL DIFFICULTIES
SPOUSAL COMMUNICATION
SATISFACTION WITH FINANCIAL SITUATION
SATISFACTION WITH QUALITY OF LIFE
-.28*
-.34**
-.19*
-.24*
-.23*
-.39**
.29**
.41**
-.51**
.56**
.35**
.21**
.36**
-.46**
.44**
-.33
-.29

* P<.1
**P<.05

Satisfaction with financial status was predicted by networth and income. Money managers who reported high networth and income reported high satisfaction with their financial status. On the other hand, highly monthly debt payment lead to less satisfaction with financial status.

Satisfaction with quality of life was predicted by satisfaction with financial status, networth income and home ownership. However, presence of financial difficulties and being highly in debt led to less satisfaction with quality of life. Results also show that presence of financial

TABLE 1. Pearson Correlation

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Age	1														
2. Home	.15*	1													
3. Household	-.56*	-.03	1												
4. Employment	-.67*	-.09	.33**	1											
5. Income	-.23*	.20*	.21*	.27*	1										
6. Net worth	.38*	.19*	-.33*	.27	.36*	1									
7. Monthly Payment	-.28*	.09	.09	.26*	.64*	.27*	1								
8. 1986 Savings	.06	.14	-.11	.11	.64*	.60*	.44*	1							
9. Financial Goals	-.40*	-.09	.31*	.33*	.23*	-.02	.22*	.02	1						
10. Financial Difficul-ties	- 43*	-.25*	.17*	.36*	-.02	-.23*	.09	-.18*	.19*	1					
11. Financial Knowledge	-.04*	.32*	.04	.13	.31*	.24*	.19**	.34*	.28*	-.10	1				
12. Debt Perception	.51*	.04	-.46*	-.42*	-.05	.32*	-.21*	.22*	-.24*	-.49*	.05	1			
13. Spousal Comm.	-.17*	.01	.08	-.02	-.13	-.22*	.01	-.19*	.11	.22*	.02	-.23*	1		
14. Sat. with Financial Status	.24*	.08	-.35*	-.16*	.16	.34*	-.08	.42*	-.11	-.36*	.05	.65*	-.25*	1	
15. Sat. with Quality of Life	.17*	.42*	-.36*	-.11	.25*	.12	.13	.16	-.14*	-.09	.04	.24*	-.09	.45*	1

*P≤.05

goals lead to less satisfaction with quality of life. This finding could be justified especially if the goals are not being met adequately.

TABLE 1. Path Analysis Model Showing the Causal Relationships Between Exogenous and Endogenous Variables.

The key findings of this study are that: (1) money managers communicate if they have financial problems and this, the authors feel, is a healthy thing to do; (2) the money managers who have high income and are satisfied with their financial status communicate less. One recommendation would be to encourage even those who are financially well off to communicate because this may help them make better use of their money or help them realize their goals more effectively. On the whole, it is also very evident that economic factors are the key predictors of satisfaction with financial status and quality of life for this sample.

Limitations of the Study

One limitation of this study is that the variable, spousal communication, was measured by asking the respondents about frequency of communication. The measurement of this variable could be expanded to incorporate the nature of communication. The measurement may also be improved by asking the respondents about other people that they communicate with for example financial counselors and planners. Communication with professionals may help improve respondents' financial status. The measurement of quality of life in this study used one item. Considering that quality of life is a very wide concept, it could be measured using several items incorporating economic, social and subjective measures.

REFERENCES

Abdel-Ghany, Mohammed, and Nickols, Sharon. (1984). Consumer, Consumption, and Family Economics/Household Management Research 1972-82: Survey of the Past and Outlook for the Future. Home Economics Research Journal, Vol. 12 No. 5.

Berry, R., and Williams, F. (1987). Assessing the Relationship Between Quality of Life and Marital and Income Satisfaction. A Path Analytic Approach. Journal of Marriage and the Family, Vol. 47, No. 1.

Bienvenu, Milliard J. Sr. (1970). Measure of Marital Communication. The Family Coordinator, 19, 26-31.

Campbell, A., Converse, P. E., Rodgers, W. J. (1970). The Quality of American Life. New York: Russell Sage Foundation.

Deacon, R. and Firebaugh, F. (1981). Family Resource Management Principles and Applications. Boston, Allyn & Bacon, Inc.

Gilbert, S. J. Self Disclosure, Intimacy and Communication in Families. Family Coordinator, 1976, 25, 221-231.

Inglehart, R., and Rabier, J. (1980). Aspirations Adapt to Situations - But Why Are the Belgians So Much Happier Than the Frnch? in Research on the Quality of Life by Andresw, F., University of Michigan.

Miller, Brent. (1970). A Multivariate Developmental Model of Marital Satisfaction. Journal of Marriage and the Family, 38, 643-657.

Norton, R. (1978). Foundation of a Communicator Style Construct. Human Communication Research 4 (Winter), 99-112.

Ortiz, Vilma, and Arce, C. (1986),. Quality of Life Among Persons of Mexican Descent. In Research on the Quality of Life, Andrews, Frank. M.

Sabatelli, R. M., Buck, Ross, and Dreyer, A. (1982). Nonverbal Communication Accuracy in Married Couples. Journal of Personality and Social Psychology, 43, 1088-1097.

Savage, Lydia Yvonnet (1980). The Effect of Marital Communication as the Quality of Life. Unpublished master's thesis. Iowa State University.

Schnittgrund, K. P., and Baker, G. (1985). Financial Management of Low Income Urban Families. Journal of Consumer Studies and Home Economics, 7, 261-270.

Spreitzer, E., and Snyder, E. E. (1984). Correlates of life satisfaction. Journal of Gerontology, Vol. 29, 454-458.

Strumpel, R. (1973). Economic Life Styles, Values and Subjective Welfare--An Empirical Approach. In E. Sheldon (Ed.) Family Economics Behavior. Philadelphia: Lippincott.

Swift, A. (1985). A Systems Approach to Communication Patterns Influencing Household Solvency Status. Unpublished Master's Thesis, Iowa State University.

Wells, Helen (1959). Financial Management Practices of Young Families. Journal of Home Economics, 51, 429-444.

Winter, M., Bivens, G., and Morris, E. (1984). The Assessment of Subjective Change in Family Financial Well Being. Family Strengths, 5.

White, Lynn. (1983). Determinants of Spousal Interaction: Marital Structure or Marital Happiness. Journal of Marriage and the Family, 45(3), 511-519.

THE CHANGING STRUCTURE OF THE RETAIL MARKET AND ITS EFFECT ON THE CONSUMER

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The retailing market is undergoing a period of rapid structural change. This study provides an empirical analysis of trends in the structure of the general merchandise retail market as a whole and for three modes of retailing over the period 1959-83. An examination of the structure yields some support for the hypothesis that concentration and competition in the market have increased. Profit rates of the leading general merchandise retailers have fallen despite the increased levels of concentration.

PURPOSE

Bluestone et al.(1981) noted a contradiction while studying the structure of the retail market: that while the structure has become more oligopolistic over the 1965-77 period, the market itself has become more competitive. Another contradiction was that despite the increased concentration, the profit rates of the leading stores have fallen. The purpose of this study is to confirm and quantify the contradictions identified above and to expand the period of the study to 1959-83. First, we will establish whether the structure of the market has become more concentrated. Second, whether competition in the market has increased. Third, whether falling profit rates were experienced despite increased concentration. All measures are then disaggregated by the three modes of retailing, namely department, discount, and specialty stores.

DATA SOURCES

The necessary data were compiled from two major sources, namely Fairchild's Financial Manual of Retail Stores, and Standard and Poor's Industry Surveys. Secondary sources were employed where the need arose such as Moody's Industrial Manual, Discount Merchandiser and the Census of Retail Trade.

METHODOLOGY

The approach used in the study is that of industrial organization theory. According to this theory, the structure of an industry affects its conduct and conduct in turn affects performance. These in turn will affect firm's profitability and efficiency with which resources are allocated. The ultimate target of the entire retail system, the consumer, will be affected in the end.

Seller concentration, one element of industrial structure, is the basis of analysis of the degree and trend of concentration in the market. The two measures of concentration used are Concentration Ratio and Herfindahl Index measures based on sales. Entropy measures were used to test whether competition has increased within the market. Profit rates, one element of industrial performance, were calculated by the ratio of net income to sales. These ratios were then regressed against time. All these measures were calculated for the eight leading firms in the market and the three modes.

RESULTS

The hypothesis that concentration has increased is supported by the data for the market as a whole. Both concentration ratios and Herfindahl indexes showed a tendency to increase over the period of the study. The results for the three modes indicated that the discount and specialty industries became more concentrated, whereas the department store industry became less concentrated. The result of entropy measures showed increased competition in the market, the specialty, and the discount stores. The department store industry experienced decreased competition.

Results of profit rates showed that the leading stores in the market have experienced falling profit rates over the years. All had negative Pearson Correlation coefficients which were significant at least at the .05 level. Department and discount store industries experienced declining levels of profit, whereas specialty stores had increasing rates of profit.

CONCLUSIONS AND IMPLICATIONS

Falling profit rates of the leading general merchandise stores should benefit the consumer. These declining profit rates are partly due to a decline in the economy and partly due to the escalated competition among the leading stores. Eventhough the escalated competition would benefit the consumer in terms of lower prices and higher quality products, the recent increased levels of mergers and acquisitions in the retail market may not be in the consumer's long-term interest. The results of the study are of interest to the Federal Trade Commission which tries to maintain competition in the market.

REFERENCES

Bluestone, Barry, Patricia Hanna, Sarah Kuhn, and Laura Moore (1981), The Retail Revolution, Boston Mass: Auburn House.

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EARLY RETIREMENT INCENTIVE PROGRAMS: A SURVEY OF FACULTY PREFERENCES

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This study focuses upon the issue of early retirement. The faculty at Virginia Tech were asked to respond to a questionnaire that explored their feelings about retirement in general and early retirement incentives in specific. Findings indicate that most faculty had done some planning for retirement. Most were favorably disposed to having some early retirement incentive program available. Non-economic incentives to retirees, such as use of laboratory, office, and parking, were also shown to be very important.

THE RETIREMENT DECISION

The decision to retire is an emotional and economic one. Traditionally, we have considered age 65 as being the usual retirement age, with age 70 being the mandatory retirement date. Federal legislation abolishing mandatory retirement at age 70 has now opened the door for employees to work their entire lifetime, if they so desire. This poses a problem for institutions of higher education in which the employee is given tenure at an early age. The employee then has the option of remaining with that institution into their seventies and eighties, or even longer. The questions then become: (1) at what age(s) should an early retirement incentive be offered, (2) what size of incentive would encourage those you wish to retire to do so, and (3) what form should the payment take--lump sum, annuity, or some type of bridging program. In addition are there some non-economic incentives that could be offered that would make retirement attractive?

THE DATA

The data for this study comes from a 1987 study conducted by the Commission on Faculty Affairs at Virginia Tech. Questionnaires were sent to 1872 faculty members at Virginia Tech using campus mail. 994 questionnaires (53%) were returned.

RESULTS

Only 16% of the respondents said that they had planned a great deal for retirement. 46% said that they had done some planning and 28% had done a little. These latter categories represent those who may have started a tax shelter plan or contributed to an IRA but have done no specific planning for anticipated needs during retirement. The greatest concern is for adequate health insurance at a reasonable cost. 80.8% stated this was a serious concern. 95% of the respondents indicated that they had serious or some concern about maintaining their current standard of living. Almost as enlightening was that 45% of the respondents had little or no concern for maintaining their institutional affiliation and perquisites and 30% had little or no concern for maintaining their professional and collegial contacts. When asked at what age would they like to retire, 65% said that they would like to retire before age 65. However, only 52% felt that they would actually be able to retire before age 65. 37.4% said that they were looking forward to retiring and 39% said they were neutral about the prospect. With regard to the types of early retirement incentive programs, the annuity supplement programs and the partial retirement programs were the most desirable. The lump sum severance program was the least desirable. These early retirement incentive programs linked with some non-economic incentives was considered the most desirable package.

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PERSONAL SELF-CONCEPT AND PERCEIVED FINANCIAL DIFFICULTIES GO TOGETHER

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The purpose of this research was to explore the factors associated with the self-perception of financial difficulty among a group of metropolitan county government employees. Results suggest that the individuals reporting financial dissatisfaction had a very insecure sense of self and were discontented with other areas of life.

Based on a 1980 readership survey, Psychology Today developed a profile of the "Money Troubled" and the "Money Contented." Three major characteristics were associated with the "Money Troubled": a frustration of material aspirations; an insecure sense of self and related dissatisfaction with friendships and personal growth; and unhappiness with both work and home life. "We cannot tell, of course, how much discontent over money contributes to psychological problems; people who worry about money may simply be chronic worriers" (Rubenstein, 1981: 36-37). The purpose of this research was to explore the factors associated with the self-perception of financial difficulty.

METHODOLOGY AND SAMPLE DESCRIPTION

Data were collected in 1986 from a random sample of half of all employees of a Washington, DC SMSA county government. To limit the sample to middle income households, individuals not reporting total family income or whose income was less than $15,000 were excluded (N=459).

Asked to rate "how good or difficult your life has been in the past year" among nine areas of life, 78 respondents revealed that finances had been "very difficult." Chi square analysis comparing the responses of this subsample with those of the remaining 381 respondents on five other items revealed a consistent pattern of financial discontent. The financially distressed subsample indicated that they did not have enough money month to month to manage daily expenses and meet basic needs; that they could not manage an unexpected crisis requiring $500-$1,000; that they frequently worried about the amount of money available; that they worried about being overextended or using too much credit; and that they were dissatisfied with present standard of living.

Demographically, the subsamples were similar. Respondents in both groups could be described as married females from dual income households; age, education, and family size were similar. Chi square analysis revealed differences in ethnicity and income. The financially distressed group included more blacks and native Americans; those financially satisfied reported higher gross incomes.

FINDINGS AND DISCUSSION

To profile the differences in self-concept between the subsamples, several factors were considered. Responses to a 26-item scale to measure the effects of stress, job, and burnout indicated that the financially distressed group was experiencing significantly more stress.

Responses to a 14-item scale to measure self-concept revealed that the sample of government employees held a more positive self-image than those reporting financial discontent. More than three times as many of the financially distressed respondents disagreed with the statements "on the whole, I am satisfied with myself" and "I feel confident that I am capable of dealing with most problems that occur in my life." The financially discontent were more likely to disagree with the statement "I feel I am very close to being the kind of person that I want to be."

Individuals with internal locus of control approach life with an attitude that life events are self-controlled as opposed to externals who feel that life and fate control them. Internals generally report better personal adjustment. Twice as many of the financially distressed respondents as the others agreed "I have little control over the events and circumstances that affect my life."

Finally, how did the respondents rate how "good or difficult life has been in the past year" in the eight other life areas? Chi square analysis revealed differences between the financial discontents and the rest of the sample in all areas except "my extended family relationships." More of the financial discontents also reported difficulty with marriage, parenting, self, friendships, support systems, job, and health.

REFERENCES

Rubenstein, C. (May, 1981), "Money and Self-Esteem, Relationships, Secrecy, Envy, and Satisfaction." Psychology Today, 29-44.

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Children's Knowledge of Money and Consumer Purchases

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The purpose of this paper was to investigate children's knowledge of money and consumer purchases. The study also explored relationships between children's sources of income and knowledge levels as well as other potential factors associated with knowledge. The sample consisted of 84 children and their parents. The children were between 5 and 10 years of age and attended an after-school day care program. The children were interviewed and given a test which included a total of 35 items divided into three basic parts. The sub-sections tested coin and paper money identification and comparative values, the comparative cost of various items children might purchase, and what a given amount of money would purchase. Props were used for the test so that the children could see and feel the items they were comparing. Parents were also surveyed. They provided information about the child's characteristics as a money manager and where the child received the majority of his money. In addition to descriptive statistics, t-tests and Pearson correlations were used to test for statistical differences in the data. Cronbach's alpha was calculated to test the reliability of the money test scale and its subscale.

Of the 84 children in the sample, 51% were male and 49% were female. The mean age was 7 years, and 30% of the children received allowances as their primary source of money. Most of the remaining children received money on an "as needed" basis from their parents. For the purpose of this paper, children who received regular allowances and those who received most of their income from jobs (10%) were grouped together. There was no statistical relationship between age and sex in the sample or between age and primary source of income.

The scores on the money test ranged from 26% to 100% right with a mean score of 79%. The children scored highest (82% right) on the subsection testing coin and paper money identification, while they scored lowest (70% right) on the subsection testing the comparative costs of various items children might purchase. On the test as a whole, boys scored significantly higher than girls with average scores of 84% and 75%, respectively. Boys also scored significantly higher on the money identification subtest. Children who received money primarily through allowances or from jobs scored significantly higher than children who received money as needed (85% vs. 75% right) on the total test and two of the subtests (money identification and cost comparison). In addition, age was positively related with the money test scores and each of the subtests. Cronbach's coefficient alpha for the money test was 0.89. The alphas were 0.90, 0.48, and 0.78 for the money identification, cost comparison, and consumer subtests, respectively.

There were several significant relationships between the test subscales and the child's characteristics as a money manager. Children rated as good money managers by their parents were likely to score higher on the money identification subscale. Children rated by their parents as 1) budgeters, 2) planners, 3) borrowers, 4) organized, and 5) future-oriented scored significantly higher when tested on the comparative costs of products children might purchase. Children characterized as risk takers and tightwads by their parents scored higher on the subsection testing knowledge about what a given amount of money would buy.

In summary, there were significant differences in knowledge with boys scoring higher than girls and older children scoring higher on the test than younger children. Children who received allowances as their primary source of money also scored higher on the knowledge test than did children who received money on an "as needed" basis. The most difficult part of the test appeared to be the subscale dealing with comparative costs of purchases. On this sub-section, children who were rated as having positive financial management traits scored significantly higher than children rated by their parents as not having those traits.

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ANOTHER LOOK AT THE U. S. CONSUMER EXPENDITURE SURVEY: A COMPARISON OF THE 1972-73 SURVEY AND THE CONTINUING SURVEY METHODOLOGIES

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The Bureau of Labor Statistics (BLS) has been conducting expenditure surveys since the late nineteenth century. The data are used in a wide variety of economic and statistical analyses and in support of Consumer Price Index revisions. Over the years, changes in survey methodology have been introduced. These changes have been highlighted in BLS publications; however, no one review of these changes currently exits. The purpose of this paper is to fill that void by reviewing BLS materials to integrate information related to changes in the survey methodology, and thus to compare and contrast the methodologies employed in the two most recent expenditure surveys. This is not to be considered an exhaustive review. The discussion is designed primarily for Consumer Expenditure Survey public use tape users. Information concerning the methodologies should be of particular importance for researchers who are interested in comparing expenditure patterns for 1972-73 and the 1980's.

INTRODUCTION

The Consumer Expenditure Survey of the Bureau of Labor Statistics (BLS) is the most comprehensive and up-to-date source of data available on the expenditures, income, and demographic characteristics of American households. These data are used in a wide variety of economic and statistical analyses and in support of Consumer Price Index (CPI) revisions. The BLS has been conducting expenditure surveys since the late nineteenth century. All of the surveys, with the exception of the most recent one, were designed to collect data periodically, at approximately ten-year intervals. The last periodic survey was conducted in 1972-73. However, the need for more timely data than could be supplied by the periodic surveys lead to the most recent survey which was designed to collect data on a continuing basis (Gieseman and Rogers 1986). This survey, known hereafter in this paper as the Continuing Consumer Expenditure (CCE) Survey, was initiated in October 1979, with the first year of data for 1980.

With each new survey period, the methodologies used to collect and to process the data have become increasingly more sophisticated. However, changes in the survey methodology have been introduced with the recent survey which can pose potential challenges and opportunities for consumer researchers using the BLS expenditure data, particularly if comparisons are to be made between 1972-73 and the 1980's. These changes have been highlighted in various BLS publications; however, no one article currently exists which reviews these major changes together. The purpose of this paper is to fill that void by reviewing Bureau publications and additional materials in order to integrate information related to changes in the survey methodology, and thus to compare and contrast the methodologies employed in the two most recent expenditure surveys. This is not an exhaustive review. The discussion is designed primarily for Consumer Expenditure Survey public use tape users. In most instances, BLS publications reviewed are not specifically cited in the text but are noted in the Reference list under U. S. Department of Labor.

This paper is divided into three remaining sections. Methodological similarities are first briefly noted, followed by methodological differences. The latter section is subdivided to highlight differences introduced with the CCE Survey according to the overall design, definitions, and Interview- and Diary-specific changes. The last section is a summary with a brief review of the survey methodology research currently underway at the BLS.

METHODOLOGY COMPARISON: SIMILARITIES

Basic similarities in methodology for the two survey periods include the sponsorship of the survey, administration of data collection, population coverage, the reporting unit for which expenditures are collected, and data collection instruments. In general, the surveys are quite similar; however, within these areas of similarity, there are differences. Differences are discussed in the next section of the paper.

The surveys are sponsored by the BLS, U. S. Department of Labor, with data collected by the Bureau of the Census. Data are collected from a national probability sample of households designed to represent the total civilian noninstitutional population and a portion of the institutional population. The unit for which expenditure reports are collected is the set of individuals comprising a consumer unit. The 1972-73 CE and the CCE Surveys consist of two separate components, each with its own questionnaire and sample. The components are a Quarterly Interview Panel Survey in which each consumer in the sample is interviewed every three months over five consecutive quarters, and a Diary or recordkeeping instrument completed by the sample consumer units for two consecutive one week periods with the sample spread over a 12 month period.

The Interview is designed to collect data on relatively large expenditure items such as property, vehicles, education, and major appliances. Data are also collected for expenditures which occur at fairly regular intervals such as rent, utility bills, and clothing, and for expenditures incurred on trips. The Interview Survey instrument is used to collect detailed data on approximately 60 to 70 percent of total family expenditures. An additional 20 to 25 percent of total expenditures are accounted for by using global questions for food and other selected items. The Diary is designed to collect information on frequently purchased items and relatively small expenditure items. Items include, among others, detailed nonprescription drugs, and personal care products and services. Expenditures incurred while away from home overnight or longer are excluded from the Diary; they are collected in the Interview Survey.

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METHODOLOGICAL COMPARISON: DIFFERENCES

Refinements in survey methodology introduced with the CCE Survey can be grouped into four categories: overall design, definition, Interview-specific, and Diary-specific changes. Each of these refinements is discussed in this section.

Overall Design

Overall design changes include changes in time frame, sample design, variance estimation, and weighting. In addition to the differences introduced with the CCE Survey when compared to the 1972-73 CE Survey, differences introduced in sample methodology due to the change in sampling frame in 1986 are also noted.

Time Frame. One of the most important differences in the two methodologies is the change in time frame. The current survey is continuous. In contrast, the previous survey was conducted to obtain information for one time period, 1972-73. One reason the change was implemented was to improve the timeliness and efficiency of future CPI revisions. Another reason for the change was that the periodic nature of past expenditure surveys did not respond to the increasing demand from public and private sectors for more current information on consumer spending and income. These data compose the first continuous cross-sectional series in the United States which can be used to analyze expenditure patterns (Gieseman and Rogers 1986). Given the continuous nature of the survey, longitudinal data bases of addresses can also be created to examine changes over time. However, movers are not followed as would be done in a true longitudinal survey.

Sample Design. The sample design specifies the selection of households from a sampling frame. A sampling frame is a list from which housing units are chosen. For the BLS expenditure surveys, the sampling frames are based on Census files with augmentation of the samples using new construction permits and coverage improvement techniques. Augmentation is used to update the samples to include housing units which have been built since the Census was taken and to eliminate recognized deficiencies in the Census. Housing units are selected from primary sampling units (PSUs) included in the sampling frame. PSUs consist of counties (or parts thereof), groups of counties, or independent cities. Housing units within each PSU are stratified by certain variables to maximize efficiency in collecting reliable expenditure data. The sampling frame, PSUs, and stratification variables differ for the 1972-73 CE and the Continuing CE Surveys.

The 1972-73 CE Survey sample was generated from the 1970 Population Census 20 percent sample file. The CE Survey sample covered 216 PSUs. Housing units were stratified by household size, primary family income, and housing tenure. The BLS selected these characteristics because they are relevant to expenditure patterns (Pearl 1978). If housing units are not stratified by variables which are expected to be highly correlated with expenditures, the variance for expenditure and income data would be higher (Hsen 1986).

Changes in sample design were introduced with the CCE Survey. The 1970 Census 100 percent detailed file was used for the CCE Survey through 1985. This file includes information on the total population but does not include income data (Hsen 1986). The set of sample PSUs for this period was composed of 101 areas, with 85 urban and 16 rural areas. The rural areas within the 16 supplemental PSUs were temporarily eliminated from the sample from October 1981 through December 1983 due to budget constraints. They were included again beginning in January 1984. Housing units in the CCE sample for this time period were stratified by type of living quarters, value of home, and rent of home.

The sampling frames used since January 1986 are generated from the 1980, rather than the 1970, Census 100 percent detailed file, and thus reflect changes in movements of the population and updates in geographic definitions. With this change in sampling frame, the set of sample PSUs was updated. Until April 1988, the set was composed of 109 areas. The urban population was represented by 91 PSUs; 18 PSUs were included to represent the rural nonmetropolitan areas. Due to budget cuts in 1987, the number of PSUs was reduced to 101 areas with 16 rural PSUs included; this change was initiated in April of 1988. Housing units are stratified by value of home, rent of home, and household size.

Variance Estimation. Variance estimation for the two survey periods also differs. In 1972-73, a random group approach was used. For this procedure, the sample was divided into several non-overlapping subsamples. Each subsample was designed to mimic the entire sampling procedure. Estimated variances were produced for each subgroup and for the combined sample. Based on regression results, researchers within the BLS determined that, for each class of items, different sets of characteristics were related to expenditures for white families and for black and other families. Thus, two sets of generalized constants, for each class of items, were used to produce variance estimates for different sample sizes and clustering factors (Hsen 1986).

A pseudo-balanced half-sample replication procedure is used to estimate variances for the CCE. Twenty-one replicates were used in the calculation of variances for the CCE Survey through 1985; 45 replicates are currently being used. The half-sample replication procedure takes advantage of the complex structure of the CCE by accounting for the PSU and stratification features of the sample design and the weighting procedures in estimating variances, thereby producing a more reliable estimator of the variance. Variances are cell-specific for the CCE (Hsen 1986; Tucker 1985a).

Weighting. Similar weighting procedures have been used for the 1972-73 CE and the CCE Surveys, with the addition of a compositing procedure for the Interview and Diary components of the latter survey. Principal person (PP) weighting has been used to produce population estimates for the 1972-73 CE Survey and for the CCE Survey. The CCE compositing technique uses generalized least squares (GLS). GLS composite weighting was introduced in 1984 and has been used since 1985 to produce published estimates. PP weights and GLS weights both are included in the the 1984 CE public use tape files; after 1984 only the composited GLS weights are available for public use. For a detailed discussion of the steps used in weighting, see USDoL 1986c.

GLS weighting was introduced to deal with two problems which results from the use of PP weighting. First, PP weighting sometimes results in numbers of persons in several demographic groups which differ from the Census counts. In addition, estimates of the total number of consumer units based on the PP weights differ between the Diary and Interview components. Some of the inconsistencies arise from different sampling problems in the two components. To reduce or eliminate the inconsistencies, the GLS procedure is now used to perform the final step in weighting. The composition criterion adjusts consumer unit weights from the Diary and Interview so that they sum to the same totals for each survey component for the set of consumer unit subpopulations defined by region of residence, sampling frame, tenure status, and family type.

The weights for the 1972-73 and the CCE Surveys are generated for different time periods. PP weighting for the 1972-73 Survey are used to produce annual weights. The weighting methodologies applied to the CCE Survey are used to produce weights on a monthly basis for the Interview and on a weekly basis for the Diary to facilitate estimation and processing.

Definition

Changes in the definition of four terms used in the Consumer Expenditure Surveys have been introduced with the CCE Survey. The terms include population, consumer unit, reference person/head, and complete/incomplete income reporter.

Population. The data are collected from a national probability sample of households designed to represent the total civilian noninstitutional population and that portion of the institutional population living in the following groups quarters: boarding houses; housing facilities for college students and workers; staff units in hospitals and homes for the aged, infirmed, or needy; permanent living quarters in hotels and motels; and mobile home parks. Housing units for college students living away from home were added to the list of group quarters surveyed for the CCE Survey. For the 1972-73 CE Survey, expenditures made by college students living away from home were to be included among the expenditures reported by their families or household groups to which they had permanent attachments. However, researchers suspected that these expenditures were being underreported (Carlson 1986; Westat 1976). Thus, for the CCE Survey, students living in college- or university-related housing report their own expenditures directly, while at school, rather than as part of their parents' households.

Consumer Unit. The unit for which expenditure reports are collected with the CE Surveys is the individual or set of individuals who compose a consumer unit. For the 1972-73 CE Survey, a consumer unit was defined as two or more persons, usually living together, who pool their income to make joint expenditure decisions, or a person living alone or sharing a household with others or living as a roomer in a private home, lodging house, or hotel, but who was financially independent. A consumer unit was considered to be financially independent if two of the three major expenditure categories, food, housing, and clothing, were provided by the respondent (Carlson 1986; Pearl 1975). For the CCE Survey, an additional criterion was added to the definition of consumer unit to make it more consistent with the definition of a reporting unit used in other household surveys conducted by the Census. This definition specifically includes all members of a household who are related by blood, marriage, adoption, or other legal arrangement. Financial independence is now determined by the three major expense categories of housing, food, and other living expenses.

Reference Person/Head. The definition of the reference person or head changed between the two survey periods. For the 1972-73 CE Survey, the husband was designated "head" of the consumer unit for households in which both the husband and wife were present. In other than husband/wife households, the head was the person noted as such by the other CU members. In contrast, for the CCE Survey the term "householder" or "reference person" was adopted. The "householder" or "reference person" is the first CU member identified by the respondent when asked to "Start with the name of the person or one of the persons who owns or rents the home." The relationship of other CU members is determined with respect to that person. This change was made in accordance with procedures adopted for other government surveys such as the Current Population Survey.

Complete/Incomplete Income Reporter. The BLS identifies consumer units as "complete income reporters" or "incomplete income reporters" in order to produce population estimates of expenditures by income for publication. Only expenditures for complete income reporters are included in these tabulations. This distinction can also be used by public tape users to identify consumer units for analysis when income is a variable of interest. In general, the distinction between complete and incomplete income reporters is based upon whether the respondent provides values for major sources of income, such as wages and salaries, self-employment income, and Social Security income. However, it is possible even for complete income reporters not to provide a full accounting of all income from all sources. For the 1972-72 CE Survey, a consumer unit reporting zero income was considered a complete income reporter as long as there was no evidence of refusal to answer the income question. With the CCE Survey, records with across-the-board zero income are considered to be invalid and are identified as incomplete income reports.

Interview-Specific

There are five primary differences in survey methodology for the 1972-73 Interview and the CCE Interview. These include the introduction of a panel rotation survey design, a different target sample size, a different procedure to deal with consumer units which move into a housing unit which is already included in the sample and consumer units in which consumer unit members change during the survey period, a change in questionnaire design and reference periods, and a different criterion to determine which consumer units surveyed are included in the final data base upon which population estimates are based and from which microdata tapes are created.

Survey Design. Since the CCE Survey is designed to be ongoing, a rotation panel design was introduced for the Quarterly Interview. This is perhaps the most profound change for the Interview between the two survey periods. The panel rotation design was selected as a way to produce "best" estimates of quarterly and annual expenditure levels and changes (Hsen 1986). The 1972-73 CE Survey had no panel rotation, although panels of consumer units were followed over five consecutive quarters. For that survey, a full-year sample was introduced in the first quarter of each year, concentrating a very heavy work load in that quarter. A consensus developed among persons working with the 1972-73 CE Survey that the annual panels of respondents design was inefficient and costly. Census had success in using rotating panel survey designs and thus it was decided that this approach would be used for the CCE Survey (Carlson 1974; Westat 1976).

The Interview component of the CCE Survey is a national ongoing rotating panel survey in which each consumer unit in the sample is interviewed once per quarter for five consecutive quarters. A panel consists of all the consumer units selected to be interviewed during the same months over the five quarters. Each quarter three new panels are introduced into the sample, one new panel is introduced each month. A rotation group consists of all the consumer unit panels introduced into the sample during the same quarter. The sample consists of four rotation groups over a year. New consumer units are introduced into the Interview sample on a regular basis as other consumer units complete their participation. After being interviewed for five consecutive quarters, each panel is deleted from the sample, hence the rotating nature of the design. Each quarter 20 percent of the panel sample is dropped and a new 20 percent added; the panels are overlapping. This procedure distributes the work load over a year uniformly and improves the operational efficiency of the sample design, since an objective of the Interview is to provide estimates of both level and change simultaneously (Hsen 1986).

Sample Size. The sample sizes for the 1972-73 and the CCE Surveys differ. Approximately 10,000 housing units in 1972 and a different set of 10,000 units in 1973 were designated for interview during the 1972-73 Survey period. The number of eligible sample units responding in 1972 was 9,914 and for 1973 the number was 10,158 (Carlson 1974). The sample sizes for the CCE Survey differ for the periods 1980-85 and 1986-forward. For the earlier period approximately 8,400 addresses were contacted in each of five calendar quarters. The number of completed interviews per quarter was targeted at 4,800. In 1986, approximately 9,150 addresses were contacted in each of the five calendar quarters. The number of completed interviews per quarter was targeted at 6,760. Due to budget cuts in 1987, the target sample size was reduced to 4,800.

Changes in Consumer Units or Sample Address Composition. For the 1972-73 CE Survey, a detailed procedure was used to account for changes in the composition of the reporting units for the reference period being considered. This procedure dictated the time period for which consumer units were to report their expenditures and income. At each Quarterly Interview, deletions and additions in the consumer unit were checked by the Census interviewer. Expenditure information covering the quarterly reporting period was requested for new consumer unit members and persons who were not members of the consumer unit as of the interview date, but who had been part of the consumer unit in an earlier reporting period (Carlson 1974; Westat 1976). The reporting guidelines and procedures of the 1972-73 CE Survey became more complex when movers were encountered, that is, consumer units which were formed at a sample address subsequent to the initial quarterly reporting period for the sample panel. There was no attempt to follow earlier occupants who had been interviewed, or had refused to be interviewed, to their new addresses. For consumer units which moved to the sample address, a special questionnaire was used to record survey year expenditure and income information. Consumer units entering the survey after the first quarter were screened to determine if the family existed as a consumer unit prior to moving to the sample address. If it did, all expenses at previous residences during the survey year were included in the survey. The procedure was followed so that the file of expenditure data would correspond to both the universe of consumer units in existence as of the end of a survey year and to persons who changed consumer unit affiliation during the survey period (Carlson 1974; Westat 1976).

For the CCE Survey, emphasis is placed on the individuals composing the consumer unit at the time of the Quarterly Interview. The interviewer is instructed to obtain an expenditure report for the entire quarter for all persons listed as part of the consumer unit at the interview date. Expenditures and income reports refer back to the beginning of the survey reference period primarily. Reports include expenditures made and income received by consumer unit members when living at other addresses and as members of other consumer units. This procedure was designed to simplify data collection, to promote more accurate reporting, and as a result, to produce more reliable data.

Questionnaire Design and Reference Periods. The questionnaire design and reference periods for expenditures in the 1972-73 Interview were geared to a calendar year. The current Interview is a quarterly survey; thus both quarterly and annual estimates can be produced. This difference is reflected in the types of questions asked during each Interview and in the reference periods used for recalling expenditures. For the 1972-73 CE Interview, the initial interview was used to collect socioeconomic characteristics of the consumer unit, an inventory of major durable items, and data covering a variety of regularly purchased items bought since the first of the year. The expenditure data were used to produce expenditure estimates while the inventory data only were used for bounding, i.e., to classify the consumer unit for analysis and to prevent duplicate reporting expenditures in subsequent interviews. The BLS intended to use the initial reports from the 1972-73 CE Survey for calendar year estimates because it was felt that the bound created by the beginning of the year reference period was sufficient. A uniform bounding procedure was introduced with the CCE Survey (Hsen 1986). The bounding procedure was introduced since, in surveys such as the CE, first interviews on average result in a substantial overstatement of expenditures. This is the net effect of memory losses and associating expenditures with the wrong time period; the principal source of error arises from a phenomenon known as "telescoping". Telescoping results when more expenditures are reported within the reference period of the interview than actually occurred within the period. Expenditure and inventory data collected during the initial interview of the CCE Survey is used strictly for bounding. Expenditure information during this interview is collected using a one month recall.

Questions included in the second through fifth interviews of the 1972-73 CE Interview and corresponding reference periods varied according to the anticipated difficulty of recall. For frequent purchases and small items a three month reference period was used; thus, questions for these items appeared on the questionnaire each quarter. For slightly more expensive items a six month reference period was used. For expensive or infrequently purchased items a one year recall was used. The final interview in the fifth quarter was used to obtain regularly recorded quarterly expenditures, information on housing expenditures, work experience, changes in assets and liabilities, estimates of consumer unit income, and other selected financial information (Carlson 1974).

With the advent of the CCE Survey, a change was made in the reference period to reflect expenditures made since the last Quarterly Interview. For some items a question is asked for the purchase month directly for each reported expenditure, while a second type of question is asked for a quarterly amount of expenditures. This change results in a uniform questionnaire to collect expenditure information in each quarter for the second through fifth interviews. Questions are added for income and work experience in the second and fifth interviews. Income and work experience questions are included in the third and fourth interviews for updating previously provided information. As in the 1972-73 CE Interview, an annual supplement in the fifth interview is used to obtain a financial profile of the consumer unit. A twelve month recall period is used to collect these data.

Data Base Criterion. The criterion used to determine which consumer unit records are included in the data base used by the BLS differs for the two survey periods. For the 1972-73 CE Survey, the file of expenditure records for consumer units which participated in a fifth interview were included. In addition to full-year records this file also included some part-year records for consumer units which reported during interview five. This procedure was followed as a result of the orientation to a calendar year. The interviews of approximately 7,000 consumer units which reported for one or more quarters, but not for quarter five, were not used by the BLS (Westat 1976). Implementation of this procedure resulted in a data base biased toward fifth quarter consumer units (Dippo 1986). In contrast, for the CCE Survey, all consumer units which participate in a Quarterly Interview are included in the BLS data base. Implementation of this procedure avoids the loss of information that would occur if consumer units participating in a Quarterly Interview were not used.

Diary-Specific

The Diary is completed by the consumer unit and is used primarily to obtain expenditure information which is either not collected in the Quarterly Interview or is collected as a global estimate in the Interview. Diary-specific changes introduced with the CCE Survey include a smaller sample size and a minor change in design of the recordkeeping survey instrument.

Sample Size. For the 1972-73 CE Diary, the target sample size was 10,000 consumer units per year (Carlson 1974). The sample for each year was subdivided into 52 systematic subsamples of approximately equal size. A different subsample was introduced each week of each year so that expenditures over the years would be covered. The samples for the four weeks prior to Christmas each year were doubled in size in order to measure more reliably the large volume of purchases at that time of year (Pearl 1978).

For the CCE Survey the sample size was reduced. As with the Quarterly Interview, the sample sizes for the years 1980-85 and 1986-forward also differ. The address sample of households for the earlier years of the CCE Survey included 6,800 households annually. The target annual sample size was 4,800. Samples of 8,180 addresses were requested to participate in 1986 and 1987. The target sample size was 6,050 households annually. Budget cuts have resulted in a smaller target sample size of 4,800 beginning in 1988. The sample sizes reflect the doubling of the Diary sample during the last six weeks of the year to collect expenditures during the peak shopping period of the Christmas and New Year holidays. The workload of interviews is spaced over the 52 weeks of the year.

Form Design. A change in the form design or layout used for recording expenditures has been introduced. For the 1972-73 CE Survey, categories of items were listed in the Diary in line-specific blocks by type of food and beverages, meals and snacks purchased at a restaurant, carry-out, etc., all other purchases and expenses, and gifts. For this survey, consumer units were to record whether alcohol was purchased as part of the meal but were not asked to record the cost. In addition, consumer units participating in this earlier survey were to note where the meal or snack was purchased. Line-block specificity was eliminated for most of the Diary for the CCE Survey (Hsen 1986). For example, the current Diary is designed so that purchases of food and beverages for home consumption are recorded in one block rather than in several blocks as in the 1972-73 Diary. Specific examples of the types of items and expenditures consumer units are to record are listed in the margins of the CCE Survey Diary. For food and beverages purchased at restaurants or other places away from home, consumer units are now requested to note whether alcoholic beverages were included in the cost, and if so how much was spent for these beverages. However, where the meal or snack is purchased is no longer requested (Doddy 1987).

SUMMARY

The Consumer Expenditure Survey provides researchers with a rich source of data on the variables affecting household spending patterns and welfare. To take full advantage of these data, researchers using the public use tapes need to understand the design of the survey. The purpose of this paper is to review BLS publications and related materials in order to compare and contrast the survey methodologies used to collect expenditure data by focusing on the 1972-73 CE Survey and the CCE Survey. This review does not provide an exhaustive discussion of the similarities and differences between the two survey periods; it does, however, provide a discussion of several of the *major* issues. Other topics of possible interest to researchers using the BLS expenditure survey data include refinements in processing, for example, allocation and imputation (see USDoL 1982 and USDoL 1988a), and changes in top coding rules which are applied to the microdata before they can be released for public use (see USDoL 1977b and USDoL 1987a,b).

Future refinements in the survey methodology are expected to be based on current statistical research being conducted within the BLS. The purpose of these research studies is to improve the measurement of consumer expenditure variables. This research includes, for example, examinations and evaluations of the differential effects of recall length bias, time in sample, and telescoping for the Interview (Silberstein and Jacobs 1986; Silberstein 1987), recordkeeping behavior of Diary respondents (Tucker 1985b, 1986a, 1986b, 1987), the influence which survey procedures have on response error (Tucker 1986b), the physical layout of the Diary (Tucker 1986b), development of composite estimates for quarterly change for the Interview (Holmes 1984a), a multivariate analysis package for non-normal distribution testing (Holmes 1984b), and an income imputation methodology for small size sample surveys (for a discussion of preliminary research concerning income response see Garner 1987). A new area of research for the BLS is the application of methods from the field of cognitive psychology to study respondent conditioning and questionnaire design (see Bienias, Dippo, and Palmisano 1987).

Improvements in survey methodology are expected to result from current and future research efforts. Users of the Consumer Expenditure Survey data will be notified of refinements in the survey methodology as they are introduced through BLS publications such as the *Monthly Labor Review*, news releases, bulletins, and public use tape documentation. Through joint efforts of providers and users of the data, the full potential of the Consumer Expenditure Survey can be realized as an invaluable instrument for analyses of family spending behavior and welfare.

REFERENCES

Bienias, Julia, Cathryn S. Dippo, and Mark Palmisano, eds. (1987), *Questionnaire Design: Report on the 1987 BLS Advisory Conference*, Washington, D. C.: U. S. Department of Labor, Bureau of Labor Statistics, August.

Carlson, Michael (1974), "The 1972-73 Consumer Expenditure Survey", *Monthly Labor Review*, 97 (No. 12, December): 16-23.

-------(1986), Personal Communication, U. S. Department of Labor, Bureau of Labor Statistics, Washington, D. C., August-October.

Dippo, Cathryn S. (1986), Personal Communication, U. S. Department of Labor, Bureau of Labor Statistics, Washington, D. C., September.

Doddy, Jeanette (1987),"Comparison 1972-73 Diary & 1980-81 Diary," U. S. Department of Labor, Bureau of Labor Statistics Memorandum to Sioux Groves, Washington, D. C., January 9.

Garner, Thesia I. (1987), "Income Reporting in the U. S. Consumer Expenditure Survey," Vickie L. Hampton (ed.), *American Council on Consumer Interests 33rd Annual Conference, April 1987, Denver, Colorado, The Proceedings*, Columbia, MO: American Council on Consumer Interests: 282-290.

Gieseman, Raymond and John Rogers (1986), "Consumer Expenditures: Results from the Diary and Interview Surveys," *Monthly Labor Review*, 109 (No. 6: June): 14-18.

Holmes, Robert M. (1984a), "Preliminary Plan for Research in Composite Estimation for the CCES," U. S. Department of Labor, Bureau of Labor Statistics Memorandum to Curtis A. Jacobs, Washington, D. C., January 23.

-------(1984b), "Testing for Trends in Mean Expenditures in the CES," U. S. Department of Labor, Bureau of Labor Statistics Memorandum to Curtis A. Jacobs, Washington, D. C., July 20.

Hsen, Paul (1986), "Differences Between 1972-73 CE with 1979 Onward CE," U. S. Department of Labor, Bureau of Labor Statistics Memorandum to Thesia I. Garner, May 12, and Personal Communication, April-October.

Pearl, Robert S. (1975), *Methodological Analysis of* 1972-73 *U. S. Expenditure Survey Data*, First Phase Report, Champaign-Urbana, IL: University of Illinois, Survey Research Laboratory, April.

-------(1978), 1972-73 *U. S. Consumer Expenditure Survey-A Preliminary Evaluation.*, Technical Paper No. 45, U. S. Department of Labor, Bureau of Labor Statistics, Washington, D. C.: U. S. Government Printing Office.

Silberstein, Adriana R. (1987), "Respondent Characteristics and Recall Bias in the Consumer Expenditure Interview Survey," *Proc. of the Section on Survey Research Methods, Amer. Stat. Assoc.*, in press.

-------and Curtis A. Jacobs (1986), "Symptoms of Repeated Interview Effects in the Consumer Expenditure Survey," *Proc. of the International Symposium on Panel Surveys* sponsored by the Amer. Stat. Assoc., Washington, D. C., in press.

Tucker, Clyde (1985a), "CE Variances and Testing for Differences," Seminar Notes, U. S. Department of Labor, Bureau of Labor Statistics, Washington, D. C., October 9.

-------(1985b), "Identifying Measurement Error in Consumer Expenditure Reports," *Proc. of the Section on Survey Research Methods, Amer. Stat. Assoc.*: 473-481.

-------(1986a), "An Analysis of the Dynamics in the CE Diary Survey," *Proc. of the Section on Social Statistics, Amer. Stat. Assoc.*: 18-27.

-------(1986b), Methodological Research in the Consumer Expenditure Diary Survey," Team Leader Report, U. S. Department of Labor, Bureau of Labor Statistics, Washington, D. C., January.

-------(1987), "Toward the Development of an Ordered Set of Data Quality Categories," *Proc. of the Section on Survey Research Methods, Amer. Stat. Assoc.*, in press.

U. S. Department of Labor (USDoL), Bureau of Labor Statistics (1977a), *Consumer Expenditure Survey: Diary Survey, July* 1972*-June* 1974, Bulletin 1959, Washington, D. C.: U. S Government Printing Office.

-------(1977b), Division of Consumer Expenditure Surveys, 1972-73 *Consumer Expenditure Survey, Interview Survey Summary Public Use Tape Documentation*, August.

-------(1978), *Consumer Expenditure Survey: Interview Survey*, 1972-73, Bulletin 1997, Washington, D. C.: U. S. Government Printing Office.

-------(1980), Division of Consumer Expenditure Surveys, 1972-73 *Consumer Expenditure Survey, Interview Survey Detailed Public Use Tape No.2 Documentation*, April.

-------(1982), "Chapter 6. Consumer Expenditures and Income," *BLS Handbook of Methods*, Vol.1, Bulletin 2134-1, Washington, D. C.: U. S. Government Printing Office.

-------(1983), *Consumer Expenditure Survey: Diary Survey*, 1980-81, Bulletin 2173, Washington, D. C.: U. S. Government Printing Office.

-------(1985), *Consumer Expenditure Survey: Interview Survey*, 1980-81, Bulletin 2225, Washington, D. C.: U. S. Government Printing Office.

-------(1986a), *Consumer Expenditure Survey: Diary Survey*, 1982-83, Bulletin 2245, Washington, D. C.: U. S. Government Printing Office.

-------(1986b), *Consumer Expenditure Survey: Interview Survey*, 1982-83, Bulletin 2246, Washington, D. C.: U. S. Government Printing Office.

-------(1986c), *Consumer Expenditure Survey: Interview Survey*, 1984, Bulletin 2267, Washington, D. C.: U. S. GPO.

-------(1987a), Division of Consumer Expenditure Surveys, 1985 *Diary Survey Public Use Tape Documentation.*

-------(1987b), Division of Consumer Expenditure Surveys, 1985 *Interview Survey Public Use Tape Documentation.*

------(1988a), "Chapter 18. Consumer Expenditures and Income," *BLS Handbook of Methods*, Washington, D. C.: U. S. Government Printing Office.

-------(1988b), *Consumer Expenditure Survey Results from* 1986, *News Release*, Washington, D. C.: U. S. Department of Labor.

Westat, Incorporated, *Some Proposals for Design and Evaluations of Alternatives for a Continuing Consumer Expenditure Survey, Final Report*, Contract No. J-9-5-0110, Submitted to the Bureau of Labor Statistics, February 27.

CHILD SUPPORT REFORM STRATEGIES FOR REDUCING CHILDREN'S POVERTY

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Family structure correlates of children's poverty are examined to evaluate the potential anti-poverty effects of child support reform. Two types of reform are compared: "ordinary reform," which includes better child support awards and improved collection; and Wisconsin's proposed Child Support Assurance System. The Wisconsin proposal guarantees a minimum child support benefit, and it provides a wage subsidy to help end welfare dependency.

In 1982, 48 percent of single-parent families were poor, compared with 10 percent of other family types. Single parents constitute about one-fifth of all families in the U.S. and the majority (55 percent) of all poor families (DHSS, 1983). Nearly all of them are legally eligible to receive child support payments. This paper focuses mostly on child support (CS) reform and its likely effects on children's poverty. Our Wisconsin CS project began in 1979 to consider policies originally proposed by the Wisconsin Welfare Reform Commission. Nine years later we are finishing a survey of 3,500 custodial and noncustodial parents from court records in 10 pilot and 10 matched control counties to assess the impacts of a uniformly applied percentage of income standard with mandatory wage withholding for CS awards and collection. A second, more innovative pilot phase of this reform will begin next year. This Child Support Assurance System (CSAS) also assures a minimum benefit for support-eligible children and it provides a wage subsidy for custodial parents. (Evanson and Uhr, 1987).

The sources cited here and recent media reports easily establish that children are receiving attention because they have remained disproportionately needy during the slow but real and sustained income growth after the early Reagan years. This attention follows quite naturally from the discovery of poverty feminization, with its message that many women are greatly disadvantaged by their single parenthood. Perhaps children are also emphasized because their poverty cannot be endogenous, whereas the public now seems to hold their parents more personally responsible for those family and work choices that are associated with poverty.

The special situation of children was not neglected during the expansion of our welfare state. In fact the long-term growth in AFDC, Medicaid, and food stamp benefits and the nature of their program eligibility rules results much from the public need to invest in all children. (Nelson, 1987). Yet somehow we still needed Sam Preston's galvanizing paper (Preston, 1984) to document forcefully that children's dependency has become relatively neglected compared to that from old-age.

CHILDREN'S POVERTY AND FAMILY STRUCTURE

There has been a spate of high quality studies about the nature and causes of children's poverty. I will focus on family structure because child support reform is directed at problems that stem from changes in living arrangements. Danziger and Gottschalk found that the 1984 poverty rate for all family units with children was 17 percent, up from 14 percent in 1967. With respect to family structure their Current Population Survey analysis revealed some disturbing trends: the incomes of female-headed households decreased in spite of their increased earnings; and the major factor accounting for the increases in incomes of two-parent families was the increased earnings of wives, which comes at the cost of reduced time for leisure and home production. (Danziger and Gottschalk, 1986).

Martha Hill's study for the Woods Hole Conference (Hill, 1983) provides the most comprehensive view of trends in family income to needs and family structure correlates during the highly fluctuating economy of the seventies. Her main conclusions from longitudinal analysis of PSID data for up to ten years was that family situation changes--particularly shifts toward mother-only families and greater mother's labor force participation--had stronger impacts on the economic well-being of families with children than other changes in the economy. Increases in divorce and separation, with growth in births out of wedlock, moved more children into low-income mother-only families, but the associated increases in mother's work hours were not able to prevent large drops in children's economic status. Unless the mother remarried, family income usually did not approach its former level. The incidence of single parent status was substantial. During the first eight years of life one-fifth of the children born in the seventies spent some time in a mother-only household; one-quarter of those aged nine at the start of the decade spent some time with a single mother before reaching age 16. Those who were born in 1970 and spent some time in a mother-only household averaged four of their first eight years there.

Using standardization/decomposition techniques Hill also found that differences in living arrangements accounted for a great deal of the racial differences in both the trend and instability of income/needs ratios. However living arrangements were much less important as a determinant of the differences in levels of economic resources by race. Consequently she argued that changes in wage levels of black household heads were needed to bring the income level of black children up to that of nonblacks.

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Hill, Duncan, and Rodgers (1986) used five-year accounting periods for 1968-72, 1973-77, and 1978-82 to estimate what PSID sample individuals' economic status would have been in the two later periods if they had been as likely to live in married couple families as in 1968-72, but with the average economic status of all persons in each living arrangement held at the observed levels. During all three periods individuals who lived in arrangements other than with married couples had income/needs that averaged only about three-quarters that of the couples, and were three to five times more likely to be poor.

For younger women and children the effects of living arrangements were stronger for poverty rates than for average family income/needs especially when comparing 1968-72 to 1978-82. However these effects were small enough that the bulk of poverty would have remained even if the proportion of married couple families had remained at pre-1970 levels. This supports their conclusion that methods other than maintaining husband-wife families are needed to achieve substantial reductions in childhood poverty.

Further work by Duncan and Rodgers (1987) elaborates on the theme that family structure should not be overemphasized. The PSID study relied on increment-decrement life tables to estimate expected years of poverty for children's subgroups and the importance of various events associated with poverty transitions. The observation period was the first fifteen years of life. Along with the unexpected impacts of changes in the labor supply of persons other than a head or spouse, the authors were surprised that the labor supply of male heads was often more important for entering or escaping childhood poverty than changes for female heads. When the transition to female headship did occur the consequences tended to be disastrous, but the frequency of this event was low relative to that for the changes in male head's work.

The impact on the expected years of poverty from living with one-parent was estimated to be an increase from one-half to 3.2 years for nonblacks and from 3.0 to 7.3 for blacks. If the mother had never married, the children could expect six years of poverty irrespective of race. On the average, children experienced 1.5 years of poverty. One-third were poor at least one year, but only about five percent experienced poverty over ten or more years.

In summary the research findings on the importance of living arrangments demonstrates that marital dissolution and births out of wedlock are certainly deleterious, but that these events are infrequent enough in the population to be subordinate to other determinants such as changes in the labor supply of parents or other household members.

Two conclusions seem to follow. First the poverty rate reduction impacts of child support reform are strictly limited by the fact that many families are poor for reasons other than single parenthood. This reminds us that there are no magic bullets to end poverty of all types. Second, efforts are needed to increase the earnings of parents, which includes female heads as well as male heads. The CSAS pilot program does seek to generate labor supply responses to raise the income and earnings of female heads.

CHILD SUPPORT REFORM AND ITS EVALUATION

Although most empirical studies of child support and reform strategies are concerned with evaluating the potential to assist all support-eligible children, national policy makers have primarily been interested in the impacts on AFDC costs and caseloads (corresponding legislation is discussed below). As public funding for child support research has grown the literature has also paid more attention to measuring cost savings as it continues to assess the family economic impacts for custodial and noncustodial parents. Additionally the current literature on child support is much more sophisticated than its early antecedents (Sorenson and MacDonald, 1983). These improvements include the application of better theoretical approaches as well as much richer data sets. Hence this brief treatment of some key aspects will necessarily be simplistic as well as selective.

Some recent PSID research (Hill, 1985) provides essential background on the determinants and consequences of the existing CS regime as well as a good example of a simulation approach for understanding what "ordinary" child support reform might accomplish: By ordinary I mean strategies that establish more generous awards and try to improve their collection. The Wisconsin project is studying a version of ordinary reform now, but it will implement a CSAS beginning in the fall. (Findings from simulations of that system will be discussed after explaining how it differs from ordinary reform).

For her 1985 paper, Hill matched ex-spouses in 1968-82 for the years after a divorce or separation to study what absent fathers do and could provide. (Note that she excluded paternity cases from her analysis). Her description of CS payment performance over time demonstrates the severity of the problems quite forcefully. Only about half of the years after a marital split involves one in which the father pays some child support. By the eighth year the proportion of ex-spouses with the father paying support falls to only one in three from a high of two in three in the second year since disruption. For only about one in six ex-couple years did he pay as much as $1,000 1968 dollars in support.

The poverty implications of these payment patterns is clear. Across all ex-couple years 10 percent are ones with the custodial mother poor, while the corresponding absent father was poor for only one in ten of these same poverty years.

Given the likely importance of remarriage for both CS payments and poverty status it is also significant that the father was remarried with children in about one-third of ex-couple years, with the custodial mother remarried in about 60 percent of them.

Like Beller and Graham (1985), Hill also studied how post-split conditions influence economic well-being via the association of ex-spouse's resources and family obligations with the level of support from the absent father. As expected the father's income and time since the split were very important, and high income fathers reduced their support more over time. To my surprise, the variables that reflected new family obligations on the father's part did not have significant effects. Whether the mother remarried was very influential, although her ability to earn was not. Hill summarized: "The greater the ability and desire of the absent father to pay and the less the extent to which the absent father had been replaced in the husband role, the larger the transfer of CS monies." (Hill, 1985, p. 15).

Evidently the post-split dynamic of CS payments is one of exponential decay punctuated by a discontinuity and drop if the custodial mother remarries. Hill (1987), and others e.g., Sawhill, (1983) have simulated how drastically altering this dynamic might improve children's well-being, and how this would affect the absent fathers and any new families they begin. These simulations are intended to be illustrative rather than exact because they must abstract from questions of enforcement and transaction costs and from the limits that the courts might place on the ability to establish the child support awards implicit in the simulations.

Hill assesses the potential for raising a substantial proportion of single-mother families out of poverty assuming that enough income is transferred to place the typically poor mother on an even par in terms of ability to satisfy needs with very rarely poor absent fathers. This required poverty rate comparisons between existing and simulated, pooled incomes. Furthermore she experimented with a counterfactual in which the welfare system is abolished. Although many of the absent fathers had remarried, only about 5 percent would be made poor under an equalized income/needs regime. The poverty rate of poor custodial mothers would change more substantially, but in three-quarters of observed ex-couple years they would remain poor with the welfare system as is. Abolishing welfare and transferring more income from the father would still leave one-half of the mothers poor. Given that these results stem from simulations which assume more drastic redistribution than any which policy makers are likely to adopt, they clearly delineate the outer limits of ordinary child support reform.

BEYOND ORDINARY CHILD SUPPORT

The Wisconsin CSAS is both a development of and an alternative to recent changes in state and federal legislation for CS enforcement. These changes began when Congress established Title IV-D of the Social Security Act in 1975. Under IV-D, states are required to establish paternity, locate absent parents, establish child support orders, and enforce them for all AFDC families and for non-AFDC families who request these services. Under current AFDC rules families must assign their child support rights to a state IV-D agency, which can use the federal parent locator service. AFDC recipients can keep the first $50 of child support collected each month but any remainder reduces welfare payments dollar for dollar. The 1984 Child Support Enforcement Amendments authorize mandatory wage withholding nationwide in cases where the absent parent is delinquent in his support payments for one month or more.

Garfinkel, Robins, and Wong make the case for further reform as follows:

> Although child support enforcement has considerable appeal as an anti-poverty device recent research suggests that the current federal approach may fall far short of its intended objectives. The primary reasons for this pessimistic outlook are low child support award amounts and lack of any earnings incentives under the current collection process. The average child support award nationwide for AFDC recipients in 1981 was $180 per month, while the average AFDC benefit was $282 per month, and the average poverty-level income was $650 per month. These figures suggest that current child support enforcement procedures simply will not be able to generate enough increase in income to cause many families to escape welfare dependence or poverty. Hence, for this approach to be successful, higher award amounts and/or other sources of income (principally earnings) appear necessary. (Garfinkel, Robins, and Wong, 1987, pp. 2-3).

Wisconsin has gone considerably beyond the federal legislation in an attempt to increase the antipoverty effectiveness of CS enforcement. The CSAS has four components: These are:

1. A uniform percentage standard of gross income for establishing CS obligations--currently set at 17 percent for one child, and 25 percent, 29 percent, 31 percent, 34 percent respectively for two, etc.

2. _Immediate_ wage withholding of the CS obligation to eliminate arrearage for all employees.

3. An assured, or minimum guaranteed child support benefit for each family.

4. An hourly wage subsidy to encourage work by custodial parents.

The first two became state law last July, and were piloted prior to that in a 10 county demonstration. The assured benefit and the wage subsidy will be field tested in at least two counties beginning January 1989.

A citizen's advisory committee has recommended $3,000 per year for one child as the guaranteed amount of CS. When the noncustodial parent's support is below that level the custodial parent is subject to a tax up to the assured level (this serves as a resource test with respect to the custodial's income). Any difference between the assured level and the sum of the contributions from both parents is supplemented by the state.

The wage subsidy in the demonstration will be $1.00 per hour ($1.75 for two or more children), up to one-half the maximum income for eligibility (or cap). For earnings above half the cap the wage subsidy is taxed at the rate needed to entirely phase it out once that cap is reached. The full subsidy is paid to custodial parents with family income up to $8,000 and it phases out at a maximum of $16,000 for all families.

Once CSAS is in place, income maximizing custodial parents will choose between CSAS, AFDC, or neither depending upon their related choice of work hours. The main point about CSAS is this: Those who can work sufficient hours will be better off in CSAS and off AFDC. And the reason they will be better off is that welfare always *reduces* the net gain from working among its recipients, whereas CSAS always *subsidizes* work hours.

Some custodial parents who are not now eligible for AFDC will be eligible for CSAS and may consequently reduce their labor supply via the income effect of the wage subsidy. Therefore the overall impact of CSAS on labor supply will result from whatever hours increases for AFDC families occur, as offset by reductions in hours among non-AFDC families.

Now suppose you are the Governor of Wisconsin. Thus transformed, you become keenly aware that the net cost to the Treasury of CSAS will depend on the exact nature of the labor supply response, all direct costs of the program, and expected gains from CS collection. To the extent that custodial parents behave as CSAS tries to induce, the State will get more AFDC savings to help finance CSAS and there will be less children's poverty.

POVERTY REDUCTION AND OTHER CSAS IMPACTS

Data about the impacts of CSAS on poverty, government costs, and the mix of benefits households receive is limited to estimates from simulations provided by Garfinkel, Robins, and Wong (1987). Their work was based on a 1986 survey of all Wisconsin households and records from the Wisconsin Computer Reporting Network (the state's system for monthly extracts of current AFDC cases). National data from the 1979 Child Support Supplement to the Current Population Survey of Income and Education were used to derive estimates of absent parent's incomes. The function for deriving the labor supply responses was derived with evidence from the Seattle-Denver Income Maintenance Experiments. Plans corresponding to four child support guarantee levels were simulated.

For the $3,000 guarantee recommended for the demonstration, the AFDC participation rate is predicted to decline from 46 to 39 percent. Another 30 percent of eligible families participate in CSAS. And the total number of families receiving either of these public benefits would increase by 28 percentage points, from 46 to 69 percent. These results assume medium improvement in support collection, which would be an improvement to 75 percent collected, from the current 46 percent of all payments owed.

At the $3,000 CS guarantee, labor supply is predicted to increase substantially for preprogram AFDC families, from an annual average of 110 hours to 205 hours, or 186 percent. Non-AFDC families would reduce their annual work hours by an average of eight percent, to 1,230 from 1,339 hours. Work hours for all families would rise five percent.

Now consider the sources of net program costs for alternative $2,500, and $3,000 guarantees (we focus mostly on the results for $3,000). To obtain the net cost of both AFDC and CSAS after implementation required comparing the "before" AFDC expenditure ($370 million) to the sum of the "after" AFDC and CSAS expenditures ($234M; $110M) plus the tax loss which would result as some non-AFDC households reduce their earnings ($12M). This comparison suggests that the state would *gain* $1 million from CSAS. At a $2,500 guarantee there would be a net cost of $5 million. The "trick" for the State is to set the guarantee high enough to reduce AFDC costs via increased earnings, to offset that same increase in CSAS payments. Setting the guarantee too low would "damp" the desired labor supply response. Of course to get CSAS costs to "wash" it is also important that support collections increase to the assumed median level of 75 percent.

Poverty reduction, family incomes, and the extent of government dependency will also depend on interactions among the assured benefit, labor supply, and collection rate. Recall that Hill estimated that increasing payments from absent parents to cause equal family income/needs ratios would reduce children's poverty by 25 percent for the entire U.S. Under CSAS the decline in the poverty rate for Wisconsin would be about 10 percent (a five point drop, compared to a 52 percent base). These Wisconsin estimates include paternity cases, assume medium collection, and apply in the context of relatively high AFDC benefits. Compared to Hill's simulations the first two of these factors clearly imply lower poverty reduction for Wisconsin than she found in excluding paternities and assuming perfect collection. The impact of Wisconsin's high AFDC benefits is also toward lower poverty reduction than would apply in a CSAS for the entire nation, in that high AFDC guarantees unambiguously reduce labor supply. Nevertheless the poverty reduction effects of CSAS for Wisconsin are not overwhelming.

The poverty gap reduction from CSAS sheds more favorable light on the program. At $3,000 the additional dollars needed to move all post-CSAS poor up to the poverty line would be $209 million compared to $292 million now--CSAS could shrink the gap by 38 percent. And even with the $2,500 guarantee the poverty gap would fall to $215 million.

For all eligibles CSAS would raise average family income approximately $1,400. As mentioned before more families would receive public benefits after CSAS takes effect; but public dollar dependency would drop seven percentage points from the pre-CSAS base of 40 percent.

Overall, the CSAS simulators concluded that it would contribute significantly toward relieving many of the economic pressures facing families having only one parent in the household. Hence the thrust of CSAS is to help all one parent families as it reduces dependency among those who need the most help. By covering everyone CSAS may seem to sacrifice some poverty reduction that might appear attainable if it targeted benefits more on poor single parents. However targeting that way would require imposing a benefit reduction rate on earnings, a la AFDC, which actually fosters dependency.

CSAS also has the potential to end more poverty spells earlier than AFDC. However as yet there are no estimates of its impact on spell lengths, which certainly matter to real children. As the CSAS demonstration proceeds it will be possible to compare durations between pilot and control counties.

SUMMARY

We have considered family structure correlates of children's poverty to assess how child support reform might be expected to affect its extent. Estimates obtained primarily from the PSID suggested that the incidence of marital dissolution and births out of wedlock is low relative to other events that antecede poverty among all children. On the other hand the evidence that severe and long-term poverty can result from these family structure changes is also quite strong.

Two types of child support reform were compared with respect to their likely impacts--ordinary reform, which includes better CS collection and increased awards; and the proposed CSAS. CSAS adds a guaranteed minimum CS benefit and wage subsidy to promote work among AFDC recipients as it assures economic security for all support-eligible children. Because of the wage subsidy CSAS can make current AFDC recipients better off via increased earnings even though the maximum benefit is less than the AFDC guarantee. As families leave AFDC the resulting cost savings to the government helps to finance the minimum benefit, as does increased CS collection incentives. For Wisconsin CSAS may even save money.

The evidence from studies of ordinary child support reform yields pessimistic conclusions about poverty rate reductions. Wisconsin researchers blame low CS awards and the lack of earnings incentives for their findings that the existing legal environment for CS enforcement has no discernible effect on poverty or welfare dependency. However their simulations of CSAS reveal at least a 10 percent reduction in poverty rates, and a 38 percent reduction in the poverty income gap. Because these gains stem primarily from reduced AFDC dependency they should also generate long term improvements in the economic security of support-eligible children. CSAS may not have magic bullets to end poverty, but it is aimed correctly.

REFERENCES

Beller, Andrea H. and John W. Graham (1985). "Variations in the Economic Well-Being of Divorced Women and Their Children: The Role of Child Support Income." In Martin David and Timothy Smeeding, eds., Horizontal Equity, Uncertainty, and Economic Well-Being, Studies in Income and Wealth, Vol. 49. Cambridge: National Bureau of Economic Research.

Danziger, Sheldon and Peter Gottschalk (1986). "How Have Families With Children Been Faring?" Institute for Research on Poverty Discussion Paper No. 801-86.

Duncan, Greg J. and Willard L. Rodgers (1987). "Longitudinal Aspects of Childhood Poverty," Survey Research Center, University of Michigan.

Evanson, Elizabeth and E. Uhr (1987). "Child Support Assurance System: An Update," Focus, Vol. 10, No. 3 (Fall), University of Wisconsin, Institute for Research on Poverty.

Garfinkel, Irwin, Philip K. Robins, and Pat Wong (1987). "The Wisconsin Child Support Assurance System: Estimated Effects on Participants," Institute for Research on Poverty Discussion Paper No. 833-87.

Hill, Martha S. (1983). "Trends in the Economic Situation of U.S. Families and Children: 1970-80." In Richard R. Nelson and Felicity Scidmore, eds., American Families and the Economy: The High Costs of Living. Washington, D.C.: National Academy Press.

Hill, Martha S. (1985). "Child Support: What Absent Fathers Do and Could Provide." Paper presented at Population Association of America meetings. Survey Research Center, University of Michigan.

Hill, Martha S. (1987). "Equity, Effectiveness, and Efficiency Considerations in Designing Child Support Programs." Draft, Survey Research Center, University of Michigan.

Hill, Martha S., Greg J. Duncan, and Willard Rodgers. (1986). "Living Arrangements: Trends and Their Influence on Family Economic Well-Being, 1968-1972." Paper presented at Population Association of America meetings. Survey Research Center, University of Michigan.

Preston, Samuel. (1984). "Children and the Elderly: Divergent Paths for America's Dependents," Demography, 21: 435-458.

Sawhill, Isabel V. (1983). "Developing Normative Standards for Child Support." In Judith Cassetty, ed., The Parental Child Support Obligation. D.C. Heath and Company.

Sorensen, Annamette and Maurice MacDonald. (1983). "An Analysis of Child Support Transfers." In Judith Cassetty, ed., The Parental Child Support Obligation. D.C. Heath and Company.

U.S. Department of Health and Human Services, Office of Child Support Enforcement (1983). Eighth Annual Report to Congress for the Period Ending September 30. Washington, D.C.: U.S.G.P.O., December 1983.

SPELLS OF POVERTY AND GENDER DIFFERENCES IN MORTALITY

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Very little is known about the role economic well-being plays in explaining differential mortality rates. In this paper, we examine (a) how economic resources alter an individual's risk of mortality, and (b) the extent to which the relationship differs by sex. Poverty is found to increase the hazard of dying more for women than for men. The different estimates of poverty effects between men and women is supportive of the hypothesis that financial constraints operate to prevent poor women from obtaining preventive and curative medical services they would otherwise seek.

SPELLS OF POVERTY AND GENDER DIFFERENCES IN MORTALITY

Today, American adults are living longer than at any other time in history. In 1900, the average life expectancy at age 20 was 62.8. By 1960, it had risen to 72.6 years and by 1984, it had reached an all-time high of 76.1 years (National Center for Health Statistics, 1987). While there has been a steady rise in average life expectancy, some groups have enjoyed greater gains than others.

One frequent observation made in the literature is that married individuals live longer than people who are not married (Helsing, Szklo, and Comstock, 1981; Korbin and Hendershot, 1977; Mergenhagen, Lee and Gove, 1985; Stroebe and Stroebe, 1983). Marriage-related mortality differences are usually attributed to either (a) the positive emotional environment associated with marriage, or (b) the self-selection of long-lived people into the state of marriage (Korbin and Hendershot, 1977).

Another frequent observation is that employed people live longer than individuals who are not employed in the labor market (Wingard, 1984; Verbrugge, 1983). As in the case of marital status, some have argued that the relationship between longevity and employment is an artifact of self-selection. That is, only those who are relatively healthy seek and maintain employment in the labor force. Others have speculated that the work environment promotes good health (Verbrugge, 1983).

In the face of generally declining mortality rates, attempts to understand mortality differentials have focused primarily on social phenomena. In particular, marriage and employment related mortality differences have generally been ascribed to self-selection or to the positive emotional climates associated with these states. Yet, married individuals also have generally higher levels of income than do nonmarried individuals, particularly those who are widowed or divorced (Zick and Smith, 1988; Duncan and Hoffman, 1985). Thus, it could be argued that it is not the state of marriage per se, but married individuals' comparatively better economic position that explains their relatively greater longevity. Similarly, employed individuals generally have higher incomes and it is possible that it is their higher incomes and not self-selection or the work environment that insulates them from premature deaths.

Very little is known about the role income plays in explaining differential mortality rates. In this paper we examine (a) how economic resources alter an individual's risk of mortality, and (b) the extent to which the relationship differs by sex. Particular attention is given to gender differences because, on average, women live longer than men, and in recent years the gender-related gap in life expectancy has been growing. Although several researchers have focused on social and environmental factors that may explain a portion of the observed gender differences in mortality, no one has explicitly examined the role of economic resources in this complicated relationship.

The fairly disparate literatures on (a) income and mortality, and (b) gender and mortality are reviewed in the next section of the paper. These literature reviews are followed by the specification of a mortality model and a description of the data set that is used in its estimation. In the final two sections of the paper, the empirical results are discussed.

LITERATURE REVIEW

Income and Mortality

It is generally thought that there is a negative relationship between income and mortality. Yet, only a small number of researchers have examined the question of how income affects adult mortality within the United States. Furthermore, the few studies that have been done provide no consensus about the risk of income in altering mortality rates.

Early work by Auster et al. (1969) and Silver (1972) made use of 1960 U.S. Census data to examine the relationship between income and mortality. Auster et al. estimated age-sex adjusted death rates using state level census data. In their multivariate analyses of the socioeconomic determinants of mortality, education had the anticipated negative effect, but total income had an unexpected positive effect. Silver (1972) extended the research of Auster et al. by also adjusting for race and sex, and using both SMSA's and states as the units of analysis. Like Auster et al., Silver generally found that either income had a statistically significant positive coefficient or the estimated coefficient was not significant. In both studies, the researchers speculated that rising income might be associated with rising mortality rates because high incomes were associated with occupational and behavioral changes that have adverse impacts on health (e.g., high income occupations are associated with high levels of stress). However, this conclusion is not shared by others who have reported that the occupation-mortality relationship is reversed (e.g., low income occupations have higher rates of mortality) (Wilkinson, 1986).

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Luft (1978) also found no support for the hypothesis that higher income promotes better health. He used the 1960-62 National Health Examination Survey of Adults to estimate the age-adjusted correlations between specific health conditions (e.g., decayed teeth, hypertension) income, and education. With the exception of dental problems, Luft generally found no relationship between income and health conditions in the cross-section. Luft devotes considerable discussion to the possibility of a simultaneous relationship between health status and income. He concludes, based on his empirical work, that while poor health may lead to reductions in income, rarely does low income precipitate poor health. It should be noted that Luft never looked at the correlation of income and mortality but rather all of his empirical work centered around the relationship between income and morbidity.

Mixed support for a negative relationship between income and mortality was found by both Orcutt et al. (1977) and Hadley (1982). Orcutt et al. estimated age-sex-race specific mortality equations using 1970 U.S. Census data with counties as the unit of observation. In three of the fourteen estimated equations the coefficient on income was negative and statistically significant. Hadley (1982) used 1970 U.S. Census county level data to estimate mortality equations. He argues that past studies had found ambiguous results regarding the relationship between income and mortality because they had not look at the impact of income received from specific sources. Hadley decomposed income in to specific components that were entered separately in the equations. In the specification where both earned income and unearned income were entered separately, Hadley found that earned income had statistically significant negative effects in four of the eight equations. In contrast, unearned income was never statistically significant.

Two studies demonstrate strong support for an inverse relationship between income and mortality. Kitagawa and Hauser (1973) used 1960 U.S. Census data to examine the effects of income and education on mortality. They found that within education categories, income had a negative effect on mortality for individuals who were less than 65 years old. For those over age 65, the relationship was reversed. Based on these results, Kitagawa and Hauser hypothesized that higher income may serve to alter the probability of dying only to the extent that a death is preventable.

The other study which found strong support for higher incomes reducing mortality was done by Duleep (1986). Duleep argued that the reciprocal relationship between income and health status cannot be disentangled based on the cross-sectional data used by previous researchers. She developed a model where income has an indirect effect on mortality through changing health status as well as a direct effect on mortality. To test her model, Duleep drew on Social Security records for white males between the ages of 35 and 65. She estimated the probability that an individual died between 1973 and 1978 as a function of the individual's age, income, education, and health status prior to 1973. In the estimated equations, income was measured by a series of dummy variables. She found that only the men in the two lowest income categories had significantly higher probabilities of dying compared to the highest income group.

Why do these studies arrive at such varied conclusions regarding the relationship between income and mortality? The answer to this question can be found in part by focusing on the data used in the empirical work presented in these studies. Virtually all of the studies, with the exception of Duleep's and Kitagawa and Hauser's, used aggregate cross-sectional census data. As these researchers point out, the use of cross-sectional data makes it difficult to disentangle the reciprocal relationship between income and mortality. Furthermore, because the unit of analysis in these studies has generally been large geographical areas (e.g., counties, SMSA's, states), the potential for over-interpreting ecological correlations is high. That is, just because average income is not related to mortality rates at the county level, does not mean that income is unrelated to the probability of dying at the individual level. Indeed, the only two studies to use individual-level data (Kitagawa and Hauser, 1973; Duleep, 1986), were also the only two studies to find a consistently negative relationship between mortality and income.

While past research on the relationship between income and mortality may not offer consistent results, there are still important insights to be gained from these studies. First, each of these studies found that it was important to control for age, sex, race, and education when specifying a mortality equation. Interestingly, only Silver (1972) and Hadley (1982) include both marital status and employment status variables in their equations. Orcutt et al. (1977) only include marital status and the remaining studies omit both variables. The general absence of these variables from the variables from the mortality-income equations is somewhat surprising given the attention these factors have received by social epidemiologists.

Second, these works clearly raise an important question: what is it about income that matters as it relates to mortality? Kitagawa and Hauser (1973) concluded that income matters only to the extent that it could be used to avoid "preventable" deaths. Hadley (1982) makes a similar argument when he states that the relationship between income and mortality may be subject to a "ceiling" effect. That is, above a certain level, income cannot be used to improve one's health or prolong life. These views are supported by Duleep's work (1986). Recall that she divided respondents into five income groups. In her estimation it was only the lowest two income groups that demonstrated significantly higher probabilities of dying.

All of these findings suggest that it is not income that affects an individual's probability of dying, but rather it is whether or not an individual has sufficient income to avoid "preventable" deaths. In the vast majority of cases, sufficient income to avoid preventable deaths translates into having the necessary income to meet basic food, clothing, and shelter needs. This suggests that our focus should shift from estimating the relationship between mortality and income per se, to estimating the relationship between mortality and poverty status.[4]

Gender and Mortality

The relationship between mortality and poverty cannot be properly estimated without giving careful attention to the role that gender might play in the analysis. Indeed, the literature on sex differences in mortality suggests that the relationship between mortality and poverty may differ significantly be gender.

Epidemiologists have often noted that women generally live longer than men (Helsing, Szklo, and Comstock, 1981; Nathanson, 1984; Verbrugge, 1983; Waldron, 1986; Wingard, 1984). Some epidemiologists have argued that men are inherently disadvantaged for biological and hormonal reasons (particularly as they affect atherosclerosis), and these biological variables are the source of the observed differences in women's and men's longevity (Hazzard, 1986). Still others have emphasized the importance of sex-related sociobehavioral factors in explaining the relative survival advantage of women (Nathanson, 1984). These researchers usually cite the greater risk-taking behavior on the part of men (e.g., higher rates of smoking) and the greater use of preventive and curative medical services on the part of women (Nathanson and Lorenz, 1982; Nathanson, 1975; Wingard, 1984) to explain observed gender differences in mortality.

If women's growing longevity advantage over the past century is attributable to their greater use of medical care, what happens when financial constraints prevent women from obtaining requisite medical care they would otherwise seek? In all likelihood, this would imply that poor women would have greater mortality rates than nonpoor women because their relatively low incomes would prevent them from obtaining medical care. In contrast, because males are generally less likely to use preventive and curative medical services, the estimated relationship between mortality and poverty for them should be weaker.

THE ANALYSIS

The Model

Most of the past research that has focused on the relationship between mortality and income has either implicitly or explicitly made use of a health production model (Grossman, 1972). The equations estimated in this paper are also consistent with such an approach.

In a health production framework, individuals are posited as gaining satisfaction from their stock of health and all other goods. People then make choices that maximize their health stock and their consumption of all other goods subject to their financial constraints and their ability to "produce" health. The production of health is determined by biological factors (e.g., sex, age, race) and environmental factors (e.g., education, marital status and employment status). In this framework, a health status equation can be estimated. The independent variables in this equation would include income, biological health production factors, and environmental health production factors. Application of such an approach to mortality analyses assumes that mortality is an appropriate single-item indicator of health status. (See Hadley (1982) pp. 41-44 for an extensive discussion of this point.)

In the context of a health production framework, individuals who live below the poverty line are hypothesized to have shorter life expectancies because they have insufficient resources to purchase necessary health care services. Similarly, it is hypothesized that gender differences in the relationship between poverty and mortality exist because given sufficient income, a woman would devote more resources to the production of health than would an otherwise comparable man. As a result, poverty should have a more detrimental effect on women's mortality than on men's mortality.

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[4] Skeptics might be tempted to argue that the provision of health care services to the poor through the federally sponsored Medicaid program should have eliminated any link between poverty and mortality. However, a recent study shows that almost 60 percent of the poor are ineligible for Medicaid (Davis and Rowland, 1983) and projections are that poor people's access to publicly provided medical care will decline still further in the future (Starr, 1986).

The Data

The *data used in the estimation come* from the Panel Study of Income Dynamics (PSID). The PSID, a nationally representative study of U.S. families, began in 1968 with a sample of five thousand households. These households have been interviewed every year from 1968 to the present. In each interview, data have been gathered on numerous economic, social, and demographic variables. Studying mortality and its determinants based on the PSID has not been possible until 1987. With the 1987 release of the PSID Response-Nonresponse tape, histories of the socioeconomic lives of panel decedents are available for the first time. Prior releases of the PSID data omitted all individuals who had died during the study period.

The PSID data have been selected for the empirical work because they offer some distinct advantages. First, the PSID contains individual-level data on adult females and males of all ages. Estimation with such data will allow us to make generalizable statements about the relationship between poverty, gender, and mortality at the level of the individual--something that has not been done previously to the best of our knowledge.

Second, the panel nature of the PSID will allow us to estimate the mortality-poverty relationship by gender controlling for prior characteristics, including health status as proxied by the respondent's age. Recall, that much of the past work in this area has made use of cross-sectional data to estimate the impact of income on mortality rates. If mortality is an indicator of health status, then the estimation of cross-sectional mortality equations introduces a risk of simultaneous equations bias because health status and income are generally thought to be determined at a point in time. By exploiting the panel nature of the PSID data, simultaneous equations bias can be avoided.

Finally, and perhaps most importantly, the PSID is rich in information on mortality risk factors, particularly those which tend to be differentially distributed across sexes. In particular, the data set contains detailed information on stable and changing measures of the economic status of the women and men in the study, including their ratios of total household income to basic household needs (i.e., food, clothing, and shelter needs). These income/needs ratios can be used to identify spells of poverty among the study respondents.

There have been approximately 1600 deaths in the PSID sample since the study began. The sample used in the analyses that follow has been selected from the PSID Individual Response-Nonresponse file so that it includes (1) all household heads (defined in the PSID to be the husband in married couple households and either a male or female in single-head households) and wives who were in the study in 1968 and who died between 1971 and 1983, and (2) a one-quarter sample of all household heads and wives of heads who entered the study in 1968 and who were still living in 1983. Household heads and wives of heads who left the study *for reasons other than death (i.e.,* institutionalization) have been purposefully excluded from the analysis because they could not be confidently classified as either alive or dead at the time of their attrition. In addition, children were excluded from the sample because the analysis that follows focuses in the determinants of adult mortality only.

The final sample of PSID decedents includes 401 women and 518 men who died at some point between 1971 and 1983, inclusive. The corresponding quarter sample of continuous study respondents includes 611 women and 460 men. In all of the analyses that follow, the sample data have been weighted so that they mirror the general U.S. population.

The Estimation

The analysis of mortality determinants using longitudinal individual-level data is done using discrete-time event-history estimation techniques (Allison, 1984). Discrete time methods have been chosen over continuous time methods because although we know the year in which each PSID death took place, we do not know the exact timing of each death.

In discrete-time event-history estimation, the hazard rate of dying, $P(t)$, is defined to be the probability that the individual will die in year "t", given that the individual was at risk of dying in year "t" (i.e., given that the individual did not die in an earlier year). This probability of dying is hypothesized to be a function of both initial and time-varying conditions that impact on an individual's demand for health.

Mathematically,
(1) $P(t) = XB + X(t)C$
where,
X = a vector of time invariant characteristics,
$X(t)$ = a vector of time-varying characteristics,
$P(t)$ = the probability of dying given that an individual did not die prior to year "t", and B and C are vectors of parameters to be estimated.

Estimation of equation (1) requires the construction of a person-year data file (Allison, 1984). In our analysis, this person-year data file contains 13,779 observations for the women and 10,322 observations for the men constructed from the original samples of 1,012 females and 978 males. Each person-year observation identified whether or not the individual died in the "t" year. In addition, it contains information on time-invariant and time-varying characteristics posited to affect the hazard of dying, including a measure of the individual's poverty status for the preceding three years. Once the person-year file is created, estimation of equation (1) is done using a logit procedure.

Several initial characters that are hypothesized to affect the hazard of dying are available in the PSID. These time-invariant characteristics include race[5] and education.[6] Time-varying characteristics posited to affect the hazard of dying include age (which is entered in a nonlinear fashion by including both age and age squared), employment status, marital status, recent changes in marital status, and recent spells of poverty.

Ideally, one would like to have a measure of health status in "t-1" to include among the time-varying regressors. There is a self-defined health status measure available in the PSID but unfortunately, data on this variable have only been collected sporadically. In particular, prior to 1981, the health status question was only asked of an adult woman in the study if she was the head of household. Given that the self-defined health status measure was missing for over 80 percent of the women's person-years, it was decided to exclude prior health status from the equation. In the absence of a true health status measure in "t-1", age becomes the closest proxy for health status.

Equation (1) is estimated separately for men and women. Definitions and descriptive statistics for all of the variables used in the estimation of the equations appear in Table 1. For estimation purposes, an individual is classified as living in poverty if he/she has insufficient income to meet basic needs as defined by the federal government (i.e., income/needs ratio less than 1.0). This definition of poverty is a fairly strict one. The equations have also been estimated using a near-poverty threshold (i.e., income/needs less than 1.5) to examine how sensitive the estimation is to changing definitions of poverty. There are virtually no differences in the estimated coefficients across these two specifications. Thus, we chose simply to present the results of the estimated logits using the strict poverty definition (i.e., income/needs less than 1.0) in Table 2.[7]

THE RESULTS

A test of the overall goodness-of-fit for the two logit equations indicates that both are statistically significant at the .01 level. However, a closer look at the estimated coefficients shows different levels of support for some of the *a priori* hypotheses by gender. To facilitate the interpretation of the coefficient estimates, "marginal effects" have also been included in Table 2. In the logit model, the estimated coefficients are cast so that a one-unit change in an independent variable, Xj, produces a Bj percentage change in the natural log of the odds ratio that the respondent will die at time "t", holding all other factors constant. In contrast, marginal effects represent the change in the odds that a respondent will die in year "t" give a small change in Xj, holding all other variables in the equation constant. Marginal effects vary in the logit formulation depending on the values at which the independent variables are set. In Table 2 the marginal effects have been calculated using the mean values for all continuous vari-

TABLE 1. Descriptive Statistics

Variable	Definition	Females[a] Mean	Females[a] St. Dev.	Males[b] Mean	Males[b] St. Dev.
DEATH	dummy variable 1=dies in year t, 0=otherwise	.008	.089	.015	.122
AGE	age in years in year t-1	50.1	15.1	50.2	14.8
EDUCATION	years of formal schooling	11.1	3.52	11.3	4.06
RACE	dummy variable 1=black, 0=nonblack	.081	.273	.068	.252
EMPLOYED	dummy variable 1=worked 500 hrs. or more in t-3, 0=otherwise	.387	.487	.838	.368
MARRIED	dummy variable 1=married in t-2, 0=otherwise	.733	.442	.907	.290
DIVORCED	dummy variable 1=divorced in t-2, 0=otherwise	.089	.285	.046	.210
WIDOWED	dummy variable 1=widowed in t-2, 0=otherwise	.132	.339	.021	.144
NEVMARRIED	dummy variable 1=never married as of t-2 0=otherwise	.046	.209	.025	.157
MARWID	dummy variable 1=widowed between t-2 & t-1, 0=otherwise	.009	.096	.004	.065
MARDIV	dummy variable 1=divorced between t-2 & t-1, 0=otherwise	.011	.106	.011	.104
TOMAR	dummy variable 1=married between t-2 & t-1, 0=otherwise	.011	.102	.011	.106
NOTRAN	dummy variable 1=no marital transition between t-2 & t-1, 0=otherwise	.969	.174	.974	.160
POOR10	dummy variable 1=income/needs is below 1.0 in 1 or more years from t-3 to t-1, 0=otherwise	.228	.420	.180	.385

[a] Based on 13,779 person-year observations constructed from 1,112 adult female respondents.

[b] Based on 10,332 person-year observations constructed from 978 adult male respondents.

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[5] Initially separate models were to be estimated by both gender and race. However, the small weighted sample of black men and women made this approach intractable. Ultimately, a more parsimonious strategy was followed. This involved estimating the mortality model separately by gender with a dummy variable for race entered in both the men's and the women's equations.

[6] In theory, education is a time-varying characteristic. In practice, education level does not change over time for the vast majority of the adult population in the United States. Since our analysis is confined to adult mortality, it seemed appropriate to treat education as a time-invariant characteristic.

[7] The estimated equations using the near-poverty variable (i.e., income-to-needs ratio less than 1.5) are available from the authors upon request.

ables and the modal values for all dichotomous variables.

TABLE 2. Parameter Estimates of the Logit Analysis (t-statistics in parentheses)

	Females		Males	
Variable	Coefficient	Marginal Effect[a]	Coefficient	Marginal Effect[a]
CONSTANT	1.17 (2.73)**	.056	1.71 (3.97)**	.072
EDUCATION	-.00307 (-.443)	-.000015	-.00106 (-.181)	-.000045
AGE	.0404 (3.04)**	.0019	.0424 (3.17)**	.0018
$(AGE)^2$	-.00009 (-.839)	-.000004	-.00016 (-1.46)	-.000007
DIVORCED[c]	.0114 (.131)	.00054	.232 (2.62)**	.0098
WIDOWED[c]	.0547 (.819)	.0026	.200 (2.49)**	.0085
NEVMARRIED[c]	.171 (1.34)	.008	.0538 (.349)	.0023
MARWID[d]	-.196 (-.768)	-.0093	.232 (1.25)	.0098
MARDIV[d]	.200 (.660)	.0094	.614 (3.33)**	.026
TOMAR[d]	-.391 (-.771)	-.019	-.287 (-.943)	-.012
EMPLOYED	-.252 (-3.35)**	-.012	-.356 (-5.98)**	-.015
RACE	.111 (1.64)	.0053	.0314 (.510)	.0013
POOR10	.180 (2.94)**	.0086	.105 (1.85)*	.0044
Person-Years	13,879		10,332	
X^2[b]	[illegible]		[illegible]	

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[a] The marginal effects have been computed using the formula:

$$\frac{\partial P_j}{\partial X_j} = \left[\frac{e^{\bar{X}B}}{(1+e^{\bar{X}B})^2} \right] B_j$$

where $\bar{X}B$ has been computed using the mean values for the continuous variables and the modal values for the discrete variables (Hanushek and Jackson, 1977).

[b] The critical value for X^2 (df=12; p=.01) = 26.2.

[c] The omitted category in this sequence of dummy variables is composed of those respondents who were married in t-2 (i.e., MARRIED = 1).

[d] The omitted category in this sequence of dummy variables is composed of those respondents who experienced no marital status transition between t-2 and t-1 (i.e., NOTRAN = 1).

**t-value statistically significant at the .05 level.
*t-value statistically significant at the .10 level.

In both the male and female equations there is support for the hypothesis that the hazard of mortality increases with age in a linear fashion. (The coefficients on age in the two equations are statistically significant while the coefficients associated with the age-squared terms are not.) Recall, in this specification age is used as a proxy for prior health status. Thus, the coefficients support the biological tenet that as an individual ages and health deteriorates, the hazard of dying increases. The marginal effects indicate that impact of age is quite similar for both men and women, with the hazard of dying increasing by .18 and .19 percent, respectively, for each year they age.

Employment status also has a consistently significant negative effect across both equations, indicating that women and men employed at "t-3" are less likely to die by year "t." Employment status was purposefully measured at "t-3" to minimize the possibility that we would observe the effect of healthy people self-selecting into the state of employment. The marginal effects indicate that employed women's hazard of dying is 1.2 percent less than the hazard for nonemployed women, ceteris paribus. The corresponding figure for the men is 1.5 percent.

As posited, one or more spells of poverty between "t-3" and "t-1" significantly increases the hazard of dying more for women that for men. This effect is indicated by both the relative levels of statistical significance and the relative magnitudes of the two estimated coefficients. The different estimates of poverty effects between women and men supports our contention that financial constraints operate to prevent poor women from obtaining preventive and curative medical services they would otherwise seek. In contrast, because men are less likely than women to purchase medical services, their mortality hazard is much less sensitive to insufficient financial resources (i.e., poverty) appears to be less likely to alter their mortality hazard.

The final set of statistically significant coefficients are associated with the marital status and the recent marital transition variables. These coefficients are significant in the males' equation only. The estimates indicate that divorced and widowed men have a significantly higher probability of dying than do married males, holding other factors constant. Furthermore, males who have recently divorced (i.e., between "t-2" and "t-1") have a significantly higher hazard of dying than males who had no recent marital status transition.

While past studies have frequently looked at the effect of marital status on mortality, only Helsing, Szklo, and Comstock (1981) looked at the impact of marital transitions on mortality, and their study focused only on the transitions from married to widowed and from widowed to remarried. Helsing, Szklo, and Comstock found that recently widowed males who did not remarry had a significantly higher hazard of dying when compared to the never-widowed men and the widowers who remarried. They speculated that perhaps the loss of a spouse generates transition-specific stress which increases the probability of dying. To further test their hypothesis, we included both marital status dummies and marital transition dummies in our equations. The findings presented here indicate that for the men, both their current marital state and transitions they may have recently made are important predictors of mortality. In particular, while we found little support for the negative effects of becoming widowed, we did find that a recent divorce, on average, increased the hazard of dying by 2.6 percent for men.

DISCUSSION AND CONCLUSIONS

Past work by social epidemiologists has emphasized the importance of the social environment, particularly marriage and employment, in enhancing longevity. Yet, if someone is married and/or employed, he/she is also likely to have sufficient income to purchase health care services that may increase longevity (i.e., medical services that help avoid "preventable" deaths). Thus, one cannot conclude that either marital status or employment status affect mortality unless the analysis also controls for economic resources. Similarly, researchers who have examined the relationship between income and mortality should not confidently conclude that economic resources affects the hazard of dying unless marital status and employment status have been controlled for in the analysis.

The empirical work presented in this paper builds on our knowledge of the socioeconomic correlates of mortality by incorporating economic resources, marital status, and prior employment status into a multivariate analysis of mortality differentials. The results indicate that prior employment has a dampening impact on both men's and women's hazard of mortality even when poverty status is included in the equation. This finding is supportive of the argument that the social and emotional aspects of the work environment enhance longevity for both men and women. However, the sign on the employment coefficient may also be indicative of the fact that employed individuals are more likely to have health insurance coverage and it may be that it is the health insurance which allows people to purchase needed medical services at a much reduced cost.

While the relationship between prior employment and mortality warrants further investigation, perhaps the most striking finding of this study is that spells of poverty and marital status have differential impacts on men's and women's risk of mortality. Past analyses that have focused on the bivariate relationship between marital status and mortality have concluded that marriage provides an emotional environment that enhances longevity (Korbin and Hendershot, 1977; Mergenhagen, Lee, and Gove, 1985). Our findings suggest that while this may be true for men, it does not hold for women. Instead, the hazard of mortality for women appears to be influenced not by marital status per se, but by the presence of economic resources that are often highly correlated with marital status.

Recently, the number of women in poverty has been growing. Roughly one in every three families headed by a woman who has minor children in the home lives in poverty (Bane, 1986). Elderly women, usually living alone, comprise over 70 percent of the elderly poor (Minkler and Stone, 1985). Indeed, women of all ages are increasingly being counted among the nation's poor. If the number of women who are poor continues to grow, and if poverty increases a woman's hazard of mortality, what will happen to the trend of declining female mortality? Our findings suggest that such a trend would impede women's future longevity gains.

While the magnitude of the poverty effect estimated in our work is not large, if it is viewed in combination with other data, it projects a rather disturbing picture of the health-poverty relationship--especially for older women. Statistics show that elderly women have more restricted activity days and they experience more injuries than their elderly male counterparts (U.S. Bureau of the Census, 1979). If these elderly women also have higher health care bills, then these added costs may contribute to their further economic impoverishment (Minkler and Stone, 1985), which in turn may further hasten their deaths. Under such a scenario, the relationship between gender, health status, poverty, and mortality is more complex than what has been estimated here and as such, it suggests a direction that future research in this area might take.

REFERENCES

Allison, Paul, (1984). Event History Analysis: Regression for Longitudinal Event Data, Beverly Hills: Sage Publications.

Auster, Richard, Irving Leveson, and Deborah Saracheck, (1969). "The Production of Health, An Exploratory Study," Journal of Human Resources, 4:411-436.

Bane, Mary Jo., (1986). "Household Composition and Poverty," pp. 209-231 in Fighting Poverty--What Works and What Doesn't, edited by Sheldon H. Danziger and Daniel H. Weinberg, Cambridge: Harvard University Press.

Duleep, Harriet Orcutt, (1986). "Measuring the Effect of Income on Adult Mortality Using Longitudinal Administrative Record Data," Journal of Human Resources, 21(2):238-251.

Duncan, Greg J., and Saul Hoffman, (1985). "A Reconsideration of the Economic Consequences of Marital Dissolution," Demography, 22:485-497.

Grossman, Michael, (1972). The Demand for Health: A Theoretical and Empirical Investigation, New York: National Bureau of Economic Research.

Hadley, Jack, (1982). More Medical Care, Better Health? An Economic Analysis of Mortality Rates, Washington D.C.: The Urban Institute.

Hanushek, Eric, and John Jackson, (1977). Statistical Methods for Social Scientists, New York: Academic Press.

Hazzard, W.R., (1986). "Biological Basis of the Sex Differential in Longevity," Journal of the American Geriatric Society, 34:455-471.

Helsing, Knud J., Moyses Szklo, and George W. Comstock, (1981). "Factors Associated with Mortality AFter Widowhood," American Journal of Public Health, 71(8):802-809.

Kitagawa, Evelyn and Philip Hauser, (1973). *Differential Mortality in the U.S.: A Study in Socioeconomic Epidemiology*, Cambridge: Harvard University Press.

Korbin, Frances E. and Gerry E. Hendershot, (1977). "Do Family Ties Reduce Mortality? Evidence from the United States, 1966-1968," *Journal of Marriage and the Family*, 39(November):737-745.

Luft, Harold S., (1978). *Poverty and Health: Economic Causes and Consequences of Health Problems*, Cambridge: Ballinger Publishing Co.

Mergenhagen, Paula M., Barrett A. Lee, and Walter R. Gove, (1985). "Till Death Do Us Part: Recent Changes in the Relationship Between Marital Status and Mortality," *Sociological and Social Research*, 70(1):53-56.

Minkler, Merdith, and Robyn Stone, (1985). "The Feminization of Poverty and Older Women," *The Gerontologist*, 25(4):351-357.

Nathanson, C.A., (1984). "Sex Differences in Mortality," *Annual Review of Sociology*, 10:191-213.

Nathanson, C.A., (1975). "Illness and the Feminine Role: A Theoretical Review," *Social Science and Medicine* 9:57-62.

Nathanson, C.A., and G. Lorenz, (1982). "Women and Health: The Social Dimensions of Biomedical Data," pp. 37-87 in *Women in the Middle Years* edited by J.Z. Giele, New York: Wiley and Sons.

National Center for Health Statistics, (1987). *Vital Statistics of the United States, 1984: Life Tables*, vol. II, Sec. 6, Department of Health and Human Services Publication No. 87-1104.

Orcutt, Guy H., Stephen D. Franklin, Robert Mendelsohn, and James D. Smith, (1977). "Does Your Probability of Death Depend on Your Environment? A Microanalytic Study," *American Economic Review*, 67(1):260-264.

Starr, Paul, (1986). "Health Care for the Poor: The Past Twenty Years," pp. 106-132 in *Fighting Poverty--What Works and What Doesn't*, edited by Sheldon H. Danziger and Daniel H. Weinberg, Cambridge: Harvard University Press.

Silver, Morris, (1972). "An Econometric Analysis of Spacial Variations in Mortality Rates," pp. 161-227 in *Essays in the Economics of Health Care* edited by Victor Fuchs, New York: National Bureau of Economic Research.

Stroebe, M.S., and W. Stroebe, (1983). "Who Suffers More? Sex Differences in Health Risks of the Widowed,," *Psychological Bulletin*, 93:279-301.

U.S. Bureau of the Census, (1979). "Social and Economic Characteristics of the Older Population," *Current Population Reports*, P-23, No.85, Washington, D.C.: U.S. Government Printing Office.

Verbrugge, Lois, (1983). "The Social Roles of the Sexes and their Relative Health and Mortality," pp.221-245 in *Sex Differentials in Mortality: Trends, Determinants, and Consequences* edited by Alan D. Lopez and Lando T. Ruzicka, Canberra, Australia: Australian National University.

Waldron, Ingrid, (1986). "What Do We Know About Causes of Sex Differences in Mortality? A Review of the Literature," *Population Bulletin of the U.N.*, 18:59-76.

Wilkinson, Richard G., (1986). *Class and Health*, New York: Tavistock Pub.

Wingard, Deborah, (1984). "The Sex Differential in Morbidity, Mortality, and Lifestyle," *Annual Review of Public Health*, 5:433-58.

Zick, Cathleen D., and Ken R. Smith, (1988). "Recent Widowhood, Remarriage, and Changes in Economic Well-Being," *Journal of Marriage and the Family*, 50(February):233-244.

ASSESSING DIETARY ADEQUACY IN THE DEVELOPMENT OF FOOD AND NUTRITION POLICY

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ABSTRACT

Alternative methods for assessing the adequacy of usual intake classify individuals differently. Precision in the classification is important to the design of public and private programs and policies.

INTRODUCTION

The development of appropriate food and nutrition policy and effective nutrition education based on assessments of the nutritional health of the population require good estimates of dietary intake and the nutritional adequacy of the diet. Food and health policies rely increasingly on survey data to support the development, implementation, and evaluation of many related public and private actions and activities. Major types of policies and programs include the monitoring of dietary status, planning nutrition interventions, program evaluation, the identification of groups at nutritional risk, and food guidance. Food consumption surveys frequently provide data used to evaluate dietary status, by measuring dietary intake and its corresponding nutritional adequacy.

Establishing the appropriate criteria for estimating the adequacy of nutrient intake has received increased attention. Proper interpretation and use of the information obtained from dietary surveys require understanding the concepts and the methodologies that relate to the use of data from dietary surveys for evaluating nutritional adequacy of dietary intake. The objective of this paper is to review alternative methods of assessing dietary adequacy and to assess the implications for development of food and nutrition policy.

In 1986, the Joint Nutrition Monitoring Evaluation Committee (JNMEC) identified a set of nutrients and food components which held priority status in public health monitoring due to excessively low or high dietary intake. Among the food components which JNMEC identified as having priority status for the general population due to low dietary consumption were vitamin C, calcium, iron, and fluoride; those warranting continued public health monitoring because of high dietary consumption were food energy, total fat, saturated fatty acids, cholesterol, sodium and alcohol.

Nutritional status is an outcome brought about by a number of factors including nutrient intake and factors affecting the utilization of nutrients. For the purpose of monitoring nutritional status, dietary data provide good indicators of the condition of health as influenced by the intake and utilization of nutrients. This does not imply that every individual or every group within the population faces the same level of risk. However, among the food components with priority status, a "substantial proportion" of the population was identified as having intakes considerably higher (or lower) than recommended levels (JNMEC, 1986). While the measurement of the nutritional status from dietary data alone should be regarded only as an indicator of what the true nutritional status is, dietary indicators used in conjunction with health indicators of nutritional status provide more complete information on nutritional outcomes than either alone. In addition, dietary data are often used independently of clinical and biochemical data due to the costs associated with clinical and biochemical tests, or for primary purposes, since the development of nutritional deficiency often occurs following inadequate dietary intake (Hegstad, 1972).

One of the goals of dietary surveys is to identify groups in the population that are at risk of having insufficient nutrient intake in order to effectively target education and intervention programs. Efficient targeting involves accurately identifying specific groups needing nutritional aid, and is often facilitated by dividing the population into groups using identifiable criteria such as economic status, race, sex, or age. The groups at risk may vary for specific nutrition related problems. With limited resources, programs more effectively allocate resources by "targeting" very specific groups in order to direct aid to the people most in need. A target group too narrowly set misses those in need of assistance; a target overly wide allows aid to be allocated to "too many" recipients, possibly leaving those with inadequate nutritional status receiving aid short of their needs. Therefore, assessing dietary adequacy and identifying target groups is critical to nutritional program development, implementation, and evaluation.

METHODS FOR EVALUATING DIETARY STATUS

In 1986, the National Research Council (NRC) released a report on Nutrient Adequacy: Assessment Using Food Consumption Surveys. This report, and the associated technical studies commissioned by the NCR, highlighted the interest and need for understanding the criteria and methodologies of dietary evaluation and assessment. While most methods of assessing the nutrient adequacy of the diet make comparison between intake and an assumed known distribution of requirements, they differ in the criteria used to determine "adequacy" of nutritional intake. Two methods for evaluating the adequacy of diets are discussed in this paper.

The first method of assessment is the cutoff method, based on the selection of a standard requirement level and assigning any person with an intake below that standard to be at risk of having nutrient deficiency. The nutrient requirement is set sufficiently high so that most people meeting the requirement would have adequate intake. The Recommended Dietary Allowance (RDA) criteria are formed in such a way (National Research Council, 1980). The RDA criteria use the average nutrient requirement plus two standard deviations of individual requirements (σ) for the recommended nutrient intake level. Assuming the distribution of requirements is normal, approximately 97.72 percent of the requirements of individuals will be smaller than the mean (μ) requirement plus two times the standard deviation ($\mu + 2\sigma$). It is assumed that almost everybody with an intake equal to or higher than the criterion will be adequately nourished for the nutrient under investigation.

The NRC report in 1986 challenged this assumption. Requirements differ among individuals: some have requirements above average; others below. Hence, it was argued, misclassification will occur. Since the distribution of requirements differs among nutrients and among individuals there is no biological logic to using the fixed point method based on average requirements. While the adjustment for dispersion in requirements in calculating RDAs reduces the number incorrectly classified as meeting their requirement when in fact they do not, the standard of the RDA fixed cutoff method misclassifies relatively more people as not having adequate intake when in fact they do. The misclassification depends on the relative position of the cutoff and the shape of the dispersion of requirements.

The alternative method for estimating the prevalence of inadequate intakes proposed by NRC (1986) is the "probability approach". In this case, the assessment of an individual's having inadequate intake is based on comparing the intake level to the requirement distribution for an individual representative of the group of individuals being considered. Thus, the bias of incorrectly identifying groups of individuals at risk or not is minimized by accounting for the distribution of requirements. It is important to note, however, that little is known about requirement distributions.

The main advantage of the cutoff method is its simplicity. It is appropriate to use for nutrients with distribution of individual requirements which have little dispersion. Also, the cutoff method is helpful when the researcher and policymaker want to look at consumption patterns and assess trends over time and among sub-groups of the population. However in practice, the cutoff method is used even when the range of individual requirements is wide, causing the interpretation of the results of a dietary survey to be more ambiguous. Precise inference about the percentage of people with inadequate intake can not be made, nor can groups in need of dietary assistance be properly identified. If the analysis of the survey does not take into account the presence of intra-individual variation, or if the individual intakes have not been adjusted for intra-individual variation, then estimates of usual intakes are not precise and the conclusions derived from the application of the cutoff method are even more weak (NRC, 1986).

In practice the probability approach, presented by the NRC, is very difficult to apply. First, the probability method assumes a known requirements In fact, little is known about specific distributions. Second, the probability approach as presented in the NRC report assumes that intakes and requirements are independently distributed. While this simplifies the calculation of the probability, it may be an inappropriate assumption to make for many nutrients. Even if data on requirements were available, the independence is not an assumption which can be tested on the basis of empirical data. Only the hypothesis that intakes and requirements are uncorrelated is testable. Without this assumption, the calculations become much more difficult.

And finally, the probability approach assumes normality (or transformation to normality) in calculating the distribution of usual intakes for food components. The normality assumption is unlikely for most nutrients, and the transformation inappropriate (Battese, et al., 1988) for the calculation of the distribution of usual intake.

Thus, while theoretically superior, both the data base and methodological developments to this point limit the application of the probability method.

IMPLICATIONS FOR ASSESSMENT

It is useful to consider the implications of incorrectly assessing nutritional adequacy with respect to programs designed to improve nutritional status through dietary intake. An example from Lorstad illustrates the policy implications that result from the use of a fixed point average requirement as the main criterion for dietary assessment compared to the individual requirements (Lorstad, 1971). The example illustrates the classification of individuals by intake (I), individual requirement (R*) and specific requirement criterion (R) levels (in this case average requirement). As shown in Table 1, according to the average requirement criterion, before any assistance program 17 percent of individuals are classified as having inadequate intake, while 19.2 percent actually have intake below their own requirement. For this example, a completely successful assistance program that targets the group with insufficient intake as identified by the average requirement criterion (17 percent) causes the total number of people with a truly inadequate diet to decline from 19.2 percent to 10.2 percent (not from the 17 to 3.8 percent as predicted by the average requirement rule). The program helps some of the people in need (people with nutrient intake less than the individual's own requirement) and some people who had already satisfactory intake (intake greater than their own requirement). However, individuals with their own requirement greater than their intake and greater than the average requirement (i.e., 6.4 percent of the population) are not targeted to receive aid. Thus the setting of criteria to evaluate dietary intake, and the use of dietary survey data to specify the usual intake of individuals are important components in assessment of dietary intake and program development.

TABLE 1. Classification of Individuals by the Adequacy of Nutrient Intake: A Comparison of Individual Intake (I) vs. Individual Requirements (R*) and Average Requirement (R)

	I<R	I>R	Total
Before Assistance Program	-----percent-----		
I > R*	4.2	76.6	80.8
I < R*	12.8	6.4	19.2
Total	17.0	83.0	100.0
After Assistance Program			
I > R*	0.0	89.0	89.8
I < R*	3.8	6.4	10.2
Total	3.8	96.2	100.0

Adopted from Lorstad (1971)

The probability approach under current discussion explicitly incorporates the variability of nutrient requirements. It is designed to derive an estimate of the true percentage with inadequate intake and not an estimate of people at risk. If assumptions are met, conclusions based on the probability approach are stronger than conclusions associated with the cutoff method. Hence, theoretically, the probability approach is superior to the cutoff method. Unfortunately, there are many empirical problems associated with the probability approach. Information concerning distributions of requirements, distributions and correlations between intake and requirement is too limited at this time for this approach to be widely used in practice. By using an estimate of the requirement distribution and assuming independence, the probability approach leads only to an approximation of the true nutrient intake deficiency and in many cases may not be more accurate than the cutoff method.

REFERENCES

Battese, G.E., S.,. Nusser, and W.A. Fuller. In press. Estimation of the Distribution of Usual Intakes for Selected Dietary Components Using Data from the 1985-86 Continuing Suryvey of Food Intakes by Individuals. Technical report prepared for the Human Nutrition Information Service, USDA under USDA, Food and Nutrition Service Cooperative Agreement Number 58-3198-6-60.

Hegsted, D.M, 1975. "Dietary Standards." J. AM. Diet Assn. 66:13-21.

Joint Nutrition Monitoring Evaluation Committee. 1986. "Nutrition Monitoring in the United States." U.S. Department of Health and Human Services and U.S. Department of Agriculture, Washington, D.C.

Lorstad, M.H. 1971. "Recommended Intake and its Relation to Nutrient Deficiency." Nutr. Newsltr. 4:18-31.

National Research Council. 1980. "Recommended Dietary Allowances Ninth Revised Edition." National Academy of Sciences, Washington, D.C.

National Research Council. 1986. Nutrient Adequacy. National Academy of Sciences, Washington, D.C.

COMMENTS ON FINANCIAL PLANNING AND FINANCIAL WELL-BEING

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Many aspects of the financial services market are changing and among the important changes are the growth in number of people offering the service of financial planning and investment advice, and the variety of new instruments. Good empirical work is needed to understand consumer preferences about their portfolios, and the market of services available to assist them. Both G. Reichbach and A. Schiano addressed these issues. Their work can be directly applied to describing responses and institutions of change.

Reichbach focused on understanding the response of higher education institutions to the (apparent) demand for trained and certified planners. Essentially her study reflects the growth and development of institutions of financial planning, and the extent to which universities and colleges are suppliers in the institutional context. Little information on the costs of providing such services was evaluated.

In an interesting paper, Schiano used a Lancaster model to evaluate the characteristics of the portfolio. The specification and analysis of the relative contribution of the characteristics offers policymakers, planners, and consumer educators evidence on the relative importance of the different characteristics derived from actual consumer behavior. Of course, this type of analysis depends on consumers being well informed about the characteristics in their portfolios and the particular assumption of linear production technology from the Lancaster model. Also, it is important to consider whether all the consumers face the same investment opportunities.

Finally, Winter's paper addresses the very important issue of evaluation of financial satisfaction. How do people perceive their financial position? What factors are associated with feelings of satisfaction and improved well-being. It is apparent that not all consumers evaluate change and conditions in the same way. She provides evidence that farmers are different than others. It is constructive to consider why this might be the case, since those determining factors can provide the basis for program design and development, particularly for farmers in periods of distress. Research on farmers can also provide evidence of factors which affect the general population as well.

ESTIMATING GEOGRAPHIC NUTRIENT INTAKE DIFFERENCES FROM NATIONAL DATA

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This paper focused on the use of national food intake survey data to statistically estimate per capita nutrient intake of food energy, fat, calcium, iron and vitamin C at the state level and illustrate the magnitudes of geographic nutrient intake differences.

The discussion of this paper is intended to provide some insight in the procedures used to estimate geographic nutrient intake differences from national survey data and illustrate the magnitudes of these differences. To estimate these differences, procedures previously employed to estimate market quantity requirements (demand) of specific foods or food groups, e.g. beef, eggs, broiler meat, etc., by geographic delineations (state, substate markets) for current and projected years become the starting point for this analysis (Huang and Raunikar). In contrast to previous studies wherein market requirements were estimated using household data, this study uses individual intake survey data sets.

The assumption made in this study is that individuals with comparable characteristics who reside in the same region behave in the same manner. It should be noted that some causal factors affecting intake levels may not have been identified or, even if identified, could not be assigned values of measurement. Furthermore, the completeness of the data from surveys such as those conducted by the USDA may affect the findings. Nevertheless, this presentation provides estimation of the magnitude and significance of the impacts of household characteristics on nutrient intake of individuals and its application at the state level.

Initially, the data base and information available for estimation are briefly described. Then, the model is presented. A discussion of the results from the estimating equations and their use in developing profiles and estimation of nutrient intake at the state level follows. Concluding comments concern the applicability of the results, and data and analysis needed for improvement.

DATA SOURCE AND DESCRIPTION

The data used are from data tapes of the USDA'S Survey of Food Intake of Individuals (SFII) in the U.S., Spring 1977 and the Bureau of the Census' Censuses of Population and Housing, 1980. The Censuses of Population and Housing were used to determine the proportion of the population within each state and was then combined with the estimated equations describing specific nutrient intake relationships to estimate nutrient intake at the state level.

The SFII contains 8720 observations (individuals) of which 6980 (80%) were included in this study. These observations represent 2525 households. Households with missing values were deleted from the original data set.

Food intake data for 6980 individuals were used to estimate for each region the effect of urbanization, household income, race and age-sex of individuals on their nutrient intake of food energy (kilocalories), fat (grams), calcium (milligrams), iron (milligrams) and vitamin C (milligrams). A description of these variables is listed in Table 1.

The census data were obtained for each variable and used to derive estimates for the four census regions and 48 contiguous states plus the District of Columbia. Variables included in the analysis were restricted to those for which comparable information was available from the 1980 Census of Population and Housing data tapes. Of particular note is the use of urban and rural classifications rather than central city, suburban and nonmetro to match census data that had been previously complied.

The average per capita nutrient intake by geographic region were derived from the SFII (Table 2). The United States and region average per capita nutrient intake values indicate considerable differences across regions for some nutrient categories. Per capita nutrient intake on average is lowest in the South region and highest in the West region except for vitamin C which is highest in the Northeast region.

MODEL

Linear and quadratic models were specified to establish the causal relationship between nutrient intake and the socioeconomic and demographic variables. The quadratic model is

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$$\begin{aligned}\text{Intake} = {} & \beta_0 + \beta_1 \text{ URB} + \beta_2 \text{ INCOME} \\ & + \beta_3 \text{ INCOME SQUARED} + \beta_4 \text{ RACE2} \\ & + \beta_5 \text{ RACE3} + \beta_6 \text{ CH1\_4} + \beta_7 \text{ CH5\_9} \\ & + \beta_8 \text{ F10\_19} + \beta_9 \text{ F20\_44} + \beta_{10} \text{ F45\_64} \\ & + \beta_{11} \text{ F65} + \beta_{12} \text{ M10\_19} + \beta_{13} \text{ M45\_64} \\ & + \beta_{14} \text{ M65.}\end{aligned}$$

The model is linear when β_3 INCOME SQUARED is omitted.

Regression analysis was used to estimate the parameters which provides a measure of the direction and magnitude of impacts of socioeconomic and demographic variables on nutrient intakes. Given information on region, urbanization, race, household income, age and sex, the estimated equations may be used to predict per capita nutrient intake per day. Furthermore, profiles of nutrient intake across socioeconomic and demographic variables included in the model may also be developed.

Table 1. Description of the variable name used in the analysis of the survey of food intake of individuals in the U.S., USDA/SFII, Spring 1977.

Independent Variable		Description
URBAN	= 1	Urban area
RURAL	= 1	Rural and unspecified (omitted category)
INCOME	= 0.5	Under $1,000
	= 1.5	$1,000 - $1,999
	= 2.5	$2,000 - $2,999
	...	... ...
	= 95.5	$95,000 and over
RACE 1	= 1	White (omitted category)
RACE 2	= 1	Black
RACE 3	= 1	Other
CH 1_4	= 1	Child less than 5 years of age
CH 5_9	= 1	Child 5 to 9 years of age
F 10_19	= 1	Female 10 to 19 years of age
F 20_44	= 1	Female 20 to 44 years of age
F 45_64	= 1	Female 45 to 64 years of age
F 65	= 1	Female 65 years of age and over
M 10_19	= 1	Male 10 to 19 years of age
M 20_44	= 1	Male 20 to 44 years of age (omitted category)
M 45_64	= 1	Male 45 to 64 years of age
M 65	= 1	Male 65 years of age and over

Table 2. Per capita average nutrient intake per day by region, USDA/SFII, Spring 1977.

Region	Food Energy	Fat	Calcium	Iron	Vitamin C
	kcal	g	mg	mg	mg
Northeast	1,847	83.6	747	12.4	94.6
Central	1,879	85.1	767	12.8	85.0
South	1,752	78.9	643	12.4	76.5
West	1,871	87.1	810	12.9	88.2
United States	1,827	83.2	728	12.6	84.7

In this study, the proportion of the population classified by variables related to race, urbanization and age-sex composition for a given state was used as weights in the equation to calculate per capita nutrient intake in the state. The use of the estimating equation will be illustrated in the results presented and the accompanying discussion.

REGRESSION RESULTS

Regression results derived from ordinary least squares estimation of the specified nutrients for four census regions are available from the authors upon request. In general, urbanization was estimated to not have a significant effect on intake of nutrients. Exceptions were found that calcium intake by urban individuals was significantly lower than that of rural individuals in the Northeast and West, and only in the West region was per capita intake of vitamin C by urban individuals significantly higher than that of individuals living in rural areas.

Income was generally found to have a significant effect on nutrient intakes in all regions except in the North Central. In addition, nutrient intakes of food energy, calcium and iron in the Northeast, and iron intake in the West were not responsive to changes in household income. Where significant impacts of income were estimated, nutrient intakes either strictly increase, or increase and then decline over the range of income.

The effects of race on nutrient intakes were mixed except for calcium intake where black individuals in all four regions and "other race" individuals in the Northeast and South were estimated to have significantly lower calcium intake than white individuals.

Age-sex was the dominant factor affecting per capita intake of nutrients. In general, males' nutrient intakes were higher than those of females in all age-sex categories. Except for vitamin C, males 10-19 and 20-44 years of age had the highest level of nutrient intakes than individuals in other age-sex categories. No clear pattern of significantly different levels of vitamin C intake is noted among age-sex groups.

INTAKE PROFILE EXAMPLES

The parameter estimates from the regression analysis were used to develop profiles of nutrient intake across race, age-sex of individuals and household income levels. The food energy intake profile for individuals living in the urban area of the North Central and South is presented in table 3. Across age-sex classifications, individuals in the South had lower food energy intake than individuals in the North Central, and white individuals had higher intake than black individuals. Within both regions and income levels and across race and age-sex classifications, the per capita food energy intake of males is higher than for females. For each of the race and age-sex classifications, the per capita intake of food energy in the North Central and South increases as income increases from $10,000 to $50,000.

The fat intake profile for individuals living in the urban area of the North Central and South is presented in table 4. For the race and age-sex classifications, per capita fat intake in low income households ($10,000) in the South is lower than that in the North Central. However, per capita fat intake for individuals in the South increase more rapidly than that in the North Central as income increases from $10,000 to $30,000. In both regions the white and black male 20 to 44 years of age is estimated to have the highest per capita intake of fat. Of the sex classifications, females are estimated to have lower fat intake than males.

The calcium intake profile for individuals living in the urban area of the North Central and South is presented in table 5. For all race and age-sex classifications, per capita intake of calcium in the North Central decreases slightly as income increases, while per capita intake of calcium in the South increases significantly. White individuals in both regions have higher calcium intake than black individuals across all age-sex groups. For both black and white individual, males 10 to 19 years of age have the highest calcium intake in both regions.

The per capita iron intake profile for individuals living in the urban area of the North Central and South is presented in table 6. For the race and age-sex classification, per capita iron intake of low income households in the South is lower than that in the North Central, but as household income increases to $30,000 and $50,000 per capita intake of iron in the South is generally higher than that in the North Central. Within both region and race and across income categories, the greatest difference in the level of iron intake between male and female individuals is in the 20 to 44 years of age groups. For the same income level and age group, per capita iron intake differs only slightly between white and black individuals in both the North Central and South.

The vitamin C intake profile for individuals living in the urban area of the North Central and South is presented in table 7. Per capita intake of vitamin C for all race and age-sex groups increases linearly with increased income in both regions; and for each $20,000 increment of income, per capita intake of vitamin C in the South increases by 14 milligrams while in the North Central an increase of 3 milligrams is estimated. In both regions, black individuals in all age-sex classifications are estimated to have higher level of vitamin C intake than the white individuals. Within regions and income levels and across race and age-sex classifications, per capita vitamin C intake of males is higher than for females.

Table 3. Profile of per capita food energy intake per day by age-sex and household income for white and black individuals living in urban area of the North Central and South, 1980.

Race/Age-Sex	Household Income/Region					
	$10,000		$30,000		$50,000	
	NC	S	NC	S	NC	S
White			(kilocalories)			
Child less than 5 years of age	1233	1090	1248	1212	1262	1232
Child 5 to 9 years of age	1728	1563	1742	1685	1757	1705
Male 10 to 19 years of age	2332	2226	2347	2348	2361	2368
Female 10 to 19 years of age	1766	1763	1781	1885	1795	1905
Male 20 to 44 years of age	2425	2220	2440	2342	2454	2362
Female 20 to 44 years of age	1587	1515	1602	1637	1616	1657
Male 45 to 64 years of age	2225	2090	2240	2213	2254	2232
Female 45 to 64 years of age	1521	1481	1536	1603	1550	1623
Male 65 years of age and over	2017	1824	2032	1946	2046	1966
Female 65 years of age and over	1482	1393	1497	1515	1511	1535
Black						
Child less than 5 years of age	1227	1031	1241	1153	1256	1173
Child 5 to 9 years of age	1721	1504	1735	1626	1750	1646
Male 10 to 19 years of age	2326	2167	2340	2289	2355	2309
Female 10 to 19 years of age	1760	1704	1774	1826	1789	1845
Male 20 to 44 years of age	2418	2161	2433	2283	2447	2303
Female 20 to 44 years of age	1580	1455	1595	1578	1609	1597
Male 45 to 64 years of age	2219	2031	2233	2153	2248	2173
Female 45 to 64 years of age	1514	1422	1529	1544	1543	1564
Male 65 years of age and over	2010	1765	2025	1887	2039	1907
Female 65 years of age and over	1476	1334	1490	1456	1505	1476

Table 4. Profile of per capita fat intake per day by age-sex and household income for white and black individuals living in urban area of the North Central and South, 1980.

Race/Age-Sex	Household Income/Region					
	$10,000		$30,000		$50,000	
	NC	S	NC	S	NC	S
White			(Grams)			
Child less than 5 years of age	50	46	51	53	51	53
Child 5 to 9 years of age	73	66	73	73	73	73
Male 10 to 19 years of age	103	99	104	106	104	106
Female 10 to 19 years of age	76	78	77	85	77	85
Male 20 to 44 years of age	114	103	115	110	115	110
Female 20 to 44 years of age	72	70	72	77	73	76
Male 45 to 64 years of age	108	101	108	108	108	107
Female 45 to 64 years of age	73	70	73	76	74	76
Male 65 years of age and over	92	87	92	94	92	93
Female 65 years of age and over	64	63	64	70	64	69
Black						
Child less than 5 years of age	53	41	53	48	54	48
Child 5 to 9 years of age	75	61	76	68	76	68
Male 10 to 19 years of age	106	94	106	101	107	101
Female 10 to 19 years of age	79	73	79	80	80	80
Male 20 to 44 years of age	117	98	117	105	118	104
Female 20 to 44 years of age	74	65	75	71	75	71
Male 45 to 64 years of age	110	96	111	102	111	102
Female 45 to 64 years of age	75	64	76	71	76	71
Male 65 years of age and over	94	82	95	88	95	88
Female 65 years of age and over	66	58	67	65	67	64

Table 5. Profile of per capita calcium intake per day by age-sex and household income for white and black individuals living in urban area of the North Central and South, 1980.

Race/Age-Sex	Household Income/Region					
	$10,000		$30,000		$50,000	
	NC	S	NC	S	NC	S
White			(Milligrams)			
Child less than 5 years of age	767	599	765	629	763	658
Child 5 to 9 years of age	917	728	915	757	913	787
Male 10 to 19 years of age	1133	918	1131	948	1129	977
Female 10 to 19 years of age	848	697	846	726	844	755
Male 20 to 44 years of age	869	701	867	731	865	760
Female 20 to 44 years of age	631	509	629	538	627	568
Male 45 to 64 years of age	727	740	724	770	722	799
Female 45 to 64 years of age	512	526	510	555	508	585
Male 65 years of age and over	739	654	737	684	735	713
Female 65 years of age and over	637	592	635	621	633	651
Black						
Child less than 5 years of age	633	537	631	567	629	596
Child 5 to 9 years of age	783	666	781	695	779	725
Male 10 to 19 years of age	999	856	997	885	995	915
Female 10 to 19 years of age	714	634	712	664	710	693
Male 20 to 44 years of age	735	639	733	669	731	698
Female 20 to 44 years of age	497	447	495	476	493	505
Male 45 to 64 years of age	592	678	590	707	588	737
Female 45 to 64 years of age	378	464	376	493	374	522
Male 65 years of age and over	605	592	603	621	601	651
Female 65 years of age and over	503	530	501	559	499	589

Table 6. Profile of per capita iron intake per day by age-sex and household income for white and black individuals living in urban area of the North Central and South, 1980.

Race/Age-Sex	Household Income/Region					
	$10,000		$30,000		$50,000	
	NC	S	NC	S	NC	S
White			(Milligrams)			
Child less than 5 years of age	9.6	9.0	9.8	10.0	10.0	11.0
Child 5 to 9 years of age	10.8	10.3	11.0	11.3	11.2	12.3
Male 10 to 19 years of age	15.5	14.5	15.7	15.6	15.9	16.6
Female 10 to 19 years of age	10.5	11.5	10.7	12.5	10.9	13.5
Male 20 to 44 years of age	16.0	15.0	16.2	16.0	16.4	17.1
Female 20 to 44 years of age	10.6	10.4	10.8	11.4	11.0	12.4
Male 45 to 64 years of age	15.4	15.2	15.6	16.3	15.8	17.3
Female 45 to 64 years of age	11.3	11.1	11.5	12.1	11.7	13.1
Male 65 years of age and over	15.5	13.9	15.7	14.9	15.9	16.0
Female 65 years of age and over	11.6	10.5	11.8	11.6	12.0	12.6
Black						
Child less than 5 years of age	9.7	9.0	9.9	10.0	10.1	11.0
Child 5 to 9 years of age	10.9	10.2	11.1	11.2	11.3	12.3
Male 10 to 19 years of age	15.6	14.5	15.8	15.5	16.0	16.6
Female 10 to 19 years of age	10.6	11.5	10.8	12.5	11.0	13.5
Male 20 to 44 years of age	16.0	15.0	16.2	16.0	16.4	17.0
Female 20 to 44 years of age	10.6	10.4	10.8	11.4	11.0	12.4
Male 45 to 64 years of age	15.4	15.2	15.6	16.2	15.8	17.3
Female 45 to 64 years of age	11.4	11.1	11.6	12.1	11.8	13.1
Male 65 years of age and over	15.5	13.9	15.7	14.9	15.9	15.9
Female 65 years of age and over	11.7	10.5	11.9	11.5	12.1	12.5

Table 7. Profile of per capita vitamin c intake per day by age-sex and household income for white and black individuals living in urban area of the North Central and South, 1980.

Race/Age-Sex	Household Income/Region					
	$10,000		$30,000		$50,000	
	NC	S	NC	S	NC	S
White			(Milligrams)			
Child less than 5 years of age	71	60	74	74	77	88
Child 5 to 9 years of age	78	71	81	85	84	99
Male 10 to 19 years of age	103	76	106	90	109	104
Female 10 to 19 years of age	73	73	76	86	79	100
Male 20 to 44 years of age	87	72	90	86	94	100
Female 20 to 44 years of age	73	63	76	77	79	90
Male 45 to 64 years of age	87	78	90	92	93	106
Female 45 to 64 years of age	83	77	87	91	90	104
Male 65 years of age and over	100	94	103	108	106	121
Female 65 years of age and over	93	81	96	95	99	108
Black						
Child less than 5 years of age	94	70	97	84	100	98
Child 5 to 9 years of age	101	81	104	95	107	109
Male 10 to 19 years of age	126	86	129	100	133	113
Female 10 to 19 years of age	96	83	99	96	102	110
Male 20 to 44 years of age	111	82	114	96	117	110
Female 20 to 44 years of age	96	73	99	86	102	100
Male 45 to 64 years of age	110	88	113	102	116	115
Female 45 to 64 years of age	107	87	110	101	113	114
Male 65 years of age and over	123	104	126	118	130	131
Female 65 years of age and over	116	91	119	104	122	118

The foregoing provides examples of using regression parameter estimates to derive nutrient intake for specified characteristics of individuals. Any set of characteristics of the individual that have been measured can be used for differing profiles of intake levels. Profiles showing food energy, calcium, iron and vitamin C as a percentage of Recommended Dietary Allowance (RDA) are available from the authors upon request. Except for vitamin C, intake of food energy, calcium and iron were most often below the RDA.

STATE ESTIMATES

Estimates for individual nutrient intake at the state level were derived by combining parameter estimates from the regressions with census of population data for 1980. An example of the derivation of state estimates of food energy intake for Georgia is presented in table 8. Parameter estimates for the South in column 1 are multiplied by weighting values for Georgia in column 2 to determine the weighted intake amount for each variable which when summed determine total food energy intake for Georgia. The weights represent the proportion of the population by race, urbanization and age-sex classifications, and mean household income in Georgia in 1980. Parameter estimates for each state within a region are assumed to be identical but the distribution of the population differs from state to state according to population data. Estimated per capita food energy intake for any other state can be computed in the same manner as described for Georgia. When comparing states in different regions, it should be noted that both the parameter estimates and the weighting values differ between states.

Table 8. Computation of weighted average per capita nutrient intake of food energy (kcal) per day for Georgia for 1980[a].

Variable	South (1)	Weighting value variable[b] GA (2)	Weighted intake value GA (1)X(2)
Intercept	2,161.758	1.000	2,161.758
Urban	-41.136	0.624	-25.665
Income	11.227	18.423	206.829
Inc_Sq	-0.128	339.398	-43.336
Race 2	-59.359	0.268	-15.914
Race 3	-115.610	0.009	-1.040
Ch1_4	-1129.788	0.076	-85.525
Ch5_9	-656.846	0.082	-53.664
F10_19	-457.203	0.089	-40.828
F20_44	-705.254	0.195	-137.877
F45_64	-739.017	0.096	071.241
F65	-827.098	0.058	-48.385
M10_19	5.950	0.094	0.562
M45_64	-129.642	0.085	-11.020
M64	-395.969	0.036	-14.215
Per capita food energy intake (kcal) per day			1,820.437

a. Estimation based on regional model for region in which state is located.

b. The variable value for income is in thousands of dollars while all other variable values represent the proportion that each variable is of the total population, e.g. in Georgia 62.4% of the population resides in the urban area.

The estimated weighted average per capita intake for the five nutrients studied are reported for region and state in table 9. Per capita food energy intake ranged from a high of 1959 kilocalories in Nevada to a low of 1789 kilocalories in Mississippi, a difference of 170 kilocalories. Except for Utah, all states in the West region had a per capita food energy intake higher than states in the other regions. Average per capita fat intake was highest in the West region states, ranging from 87.4 grams to 92.1 grams, and lowest in the South region states, ranging from 80.5 grams to 85.1 grams. Per capita fat intake in states in the North Central region was generally slightly higher than states in the Northeast region. On average, per capita intake of calcium in the West region states was 24 percent higher than per capita calcium intake in the South region. Excluding the District of Columbia which had the lowest calcium intake, Mississippi was estimated to have the lowest per capita calcium intake of about 644 milligrams as compared to Wyoming with the highest per capita calcium intake of nearly 847 milligrams. Although per capita calcium intake in the Northeast and North Central states varied within their respective regions, per capita intake in these states were more comparable than with states in other regions. The average per capita iron intake ranged from a high of 13.41 milligrams in California to a low of 12.48 milligrams in Mississippi. While states in the Northeast, South and West regions were estimated to have state to state variation in per capita iron intake, per capita iron intake in the North Central region states had extremely little state to state variation. Whereas the West region had the highest average per capita intake of nutrients previously discussed, the Northeast region was estimated to have the highest per capita intake of vitamin C. The per capita intake of vitamin C in the Northeast region is estimated to be nearly 27 percent higher than in the South region. The lowest per capita intake of vitamin C was estimated for Kentucky of 77.2 milligram with the highest in Connecticut of 103 milligrams.

Table 9. Weighted average per capita nutrient intake per day by region and state for 1980.[a]

Region /State	Food Energy	Fat	Cal- cium	Iron	Vitamin C
	kcal	g	mg	mg	mg
N.East	1,862	84.9	753	12.66	101.1
CT	1,882	86.1	763	12.73	103.0
ME	1,882	84.2	791	12.65	98.4
MA	1,878	85.7	764	12.68	101.4
NH	1,895	85.3	794	12.73	100.9
NJ	1,862	85.5	745	12.67	102.2
NY	1,848	84.5	739	12.65	100.7
PA	1,863	84.6	760	12.63	100.6
RI	1,872	85.4	761	12.65	100.3
VT	1,893	84.5	803	12.71	99.5
North Central	1,882	86.2	758	12.92	86.4
IL	1,884	86.3	750	12.94	88.1
IN	1,881	86.1	761	12.89	85.7
IA	1,878	85.9	766	12.92	84.6
KS	1,881	86.1	760	12.95	85.5
MI	1,887	86.5	756	12.93	87.3
MN	1,887	86.1	771	12.94	84.6
MO	1,874	85.9	752	12.90	86.7
NE	1,877	85.8	765	12.91	84.8
ND	1,889	86.6	774	12.98	83.7
OH	1,880	86.0	755	12.89	86.6
SD	1,880	86.2	773	12.94	83.2
WI	1,886	86.2	767	12.94	85.2
South	1,822	83.1	653	12.75	79.8
AL	1,805	81.9	649	12.60	79.1
AR	1,798	81.6	652	12.53	77.5
DE	1,845	84.5	660	12.89	81.1
DC	1,802	81.9	616	12.91	87.5
FL	1,810	83.3	651	12.77	80.9
GA	1,820	82.7	651	12.69	79.8
KY	1,825	83.2	662	12.64	77.2
LA	1,813	82.4	651	12.68	80.5
MD	1,856	85.1	658	13.04	83.5
MS	1,789	80.5	644	12.48	78.8
NC	1,826	82.8	650	12.69	78.7
OK	1,816	82.9	653	12.73	78.2
SC	1,818	82.4	648	12.66	79.4
TN	1,820	83.0	655	12.66	78.5
TX	1,826	83.4	653	12.84	79.8
VA	1,850	83.6	657	12.91	81.0
WV	1,831	83.4	662	12.66	80.0
West	1,941	90.5	811	13.25	97.5
AZ	1,914	88.8	812	12.19	95.9
CA	1,953	91.0	800	13.41	99.8
CO	1,941	91.0	823	13.05	95.2
ID	1,895	88.8	843	12.61	88.1
MT	1,980	89.5	839	12.74	89.0
NV	1,959	92.1	813	13.19	96.4
NM	1,905	87.7	821	13.25	92.7
OR	1,915	90.1	825	12.82	92.7
UT	1,878	87.4	833	12.68	92.3
WA	1,936	91.0	825	12.97	95.0
WY	1,940	91.3	847	12.79	92.9

a. Based on estimated regional models from USDA/SFII, Spring 1977 and 1980 Census of Population and Housing data.

CONCLUSION

This study has focused on the use of individual food intake survey data to statistically estimate the average nutrient intake of individuals at the state level. The nature of the USDA/SFII restricts its direct application to the estimation of state per capita nutrient intake. State estimates are based upon the assumption that for states within a region intake behavior is the same for individuals possessing the same characteristics. Hence, state to state differences in average per capita nutrient intake is dependent on the distribution of the population according to the measured socioeconomic and demographic characteristics. The procedure used in this study for obtaining weighted average per capita nutrient intake estimates is offered as an improvement over the simple unweighted average value.

It is apparent that improvement in estimates below the region level requires survey data for the defined geographic area, e.g. state. However, the cost of obtaining such detailed information my be prohibitive. Therefore, statistical procedures such as those presented herein can be further developed as a means to estimate per capita intake and profiles based on characteristics of individuals.

REFERENCE

Huang, C. L. and R. Raunikar, "Spatial Market Estimates on Consumption of Broiler Market," Agribusiness 1(2): 153-163 (1985).

THE USE OF USDA'S FOOD CONSUMPTION DATA IN THE DEVELOPMENT OF FOOD PLANS

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Nutritional quality, cost, and palatability are the primary concerns of the USDA food plans. This paper presents an overview of the food plans. It includes a brief history, a description of the data and methods used to develop the plans, and some uses of the plans.

INTRODUCTION

What are the most important factors that we consider when selecting food? Certainly taste is very important, and cost, and most adults also say they are concerned with the nutritional quality of the foods they eat (Food Marketing Institute, 1987). These are the same factors that we consider when we develop the USDA food plans.

The USDA food plans are sets of nutritious diets at four levels of cost. They show quantities of foods that households could purchase to prepare nutritious meals and snacks for a week for household members. The food plans are based on food consumption patterns in U.S. households. We believe this is important because food guidance and food budgeting advice is more likely to be accepted and followed if it takes into account the food practices of the user. The major national survey that provides data on both food consumption and food cost is USDA's Nationwide Food Consumption Survey (NFCS).

HISTORY

USDA guides for food budgeting go back to the 1890's when W. O. Atwater suggested several combinations of foods to meet the needs of the average American male for protein, fat and carbohydrate. In this early guide, consideration was given to the same criteria used for all later food plans -- nutrient needs, food composition, and the relative cost of nutrients in foods in average American diets (USDA, 1962).

Department bulletins in the 1920's discussed five basic food groups: (1) vegetables and fruits; (2) meat, poultry, fish, eggs, dairy products, nuts, legumes; (3) cereal grains; (4) sugars; (5) fats and oils. A single food plan composed of these 5 groups at a moderate cost level was suggested for the average American family of the time -- a man and a woman and 3 children under 12 years old.

In the early 1930's, Dr. Hazel Stiebeling developed the first food plans for individuals of different ages. She interpreted the growing knowledge about nutrient composition and needs in terms of quantities for 12 food groups. Plans were developed at four levels of nutrient content and cost.

These plans were used throughout the 1930's by economists planning production programs, and by nutritionists, home economists, social welfare workers, and homemakers needing guidance for selecting a nutritious diet at reasonable cost. In 1941, the National Research Council published its first set of Recommended Dietary Allowances. The food plans were adjusted slightly to comply with these new standards.

Over the years, the plans have been revised from time to time to take into account new information on food consumption patterns, the nutrient content of foods, dietary standards, and the relative cost of nutrients in foods in American diets.

NATIONWIDE FOOD CONSUMPTION SURVEY

The source of our information on food costs and food consumption patterns is the Nationwide Food Consumption Survey. USDA has conducted nationwide food consumption surveys at approximately 10-year intervals since the mid-1930's. The most recent comprehensive survey was conducted during a 1-year period from April 1977 through March 1978 (Rizek, 1978).

This survey provided data from a representative sample of about 15,000 households in the 48 conterminous States and about 36,000 individuals living in those households. Similar information was also collected in a supplemental low-income survey from about 4,700 households who were eligible for the Food Stamp Program. These households had about 12,000 household members.

The 1977-78 NFCS has two major components. The household component provides data on food used by the household from home food supplies during 1 week and the prices paid for those foods. The individual intake component provides data on food eaten both at home and away from home over 3 days by individual household members. In the household component, a trained interviewer asked the respondent to recall the kinds and amounts of foods that had been used from home food supplies over the previous 7 days. That is, food that was brought into the kitchen. This included food used to prepare meals and snacks, food that was discarded, and leftovers that were fed to pets. For each food item used, the respondent was asked the source of the food (i.e., whether it was purchased, home-produced, or received as a gift or pay). If the food was purchased, the interviewer also collected information on the unit of purchase and the price paid.

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The individual intake component of the survey consisted of a 24-hour recall and a 2-day food record. Upon completing the household component of the survey, the interviewer asked each household member to recall the kinds and amounts of foods eaten on the previous day. Then respondents were shown how to keep records of the foods they ate for 2 additional days.

USDA has relied on such national survey data to develop food plans for approximately 50 years. Information from the surveys about food prices and eating patterns in the U.S. are used along with information on food composition and human nutritional needs in periodic revisions of the plans. The last revision was completed in 1983.

DEVELOPMENT OF FOOD PLANS

We develop food plans at four cost levels -- thrifty, low-cost, moderate-cost, and liberal. At each cost level, there are food plans for individuals in 11 sex-age categories. The 1983 food plans suggest quantities of foods for a week to purchase in 31 food groups that together will meet the nutritional goals we specify. Each plan meets the same nutritional goals, but the cost level and assortment of foods is different (Cleveland and Peterkin, 1983), (Kerr et al., 1984).

Food plan development includes three major steps. First, we identify food consumption patterns using data from the Nationwide Food Consumption Survey. Second, we establish the nutritional goals and cost limits for the food plans. Third, we use a computerized mathematical model to help develop the food plans. This model is designed so that it makes the smallest possible change in the food consumption patterns we identified while meeting the nutritional goals and cost limits desired for the plans.

Food consumption patterns are the starting points for developing the food plans. We derive the food consumption pattern for each sex-age category by estimating the amount of food consumed from each of 31 food groups. These food groups were developed taking into account the nutritive value and cost of foods and the way foods are used in meals. All foods and beverages (except alcoholic beverages) are covered in this grouping and are included in the food plans. The quantities of each food group are expressed as the amount of food "as purchased," or as brought into the kitchen.

Food consumption patterns used to develop the thrifty food plan were derived from the supplemental low-income survey (USDA, 1981 and 1982). This was appropriate because all of the households that participated in the low-income survey were screened to be eligible for the Food Stamp Program, and the thrifty food plan is used as the cost basis for food stamp allotments. Food consumption patterns for the other three food plans were derived from the 1977-78 NFCS (USDA, 1983a and 1983b). We used households with increasingly greater food costs at home per person to develop consumption patterns at the three cost levels.

We used the same nutritional goals for all four food plans. The nutritional goals were based on the 1980 Recommended Dietary Allowances (RDA) and the USDA-DHHS Dietary Guidelines for Americans (Cleveland et al., 1983). Briefly, each plan provides food energy at the midpoint of the RDA for the appropriate sex-age category. In addition, it provides at least the full RDA for protein and most of the vitamins and minerals for which RDA have been set. Exceptions are zinc, folacin and vitamin E. For these nutrients, plans must provide at least 80 percent of the RDA. Levels below RDA were used because, when the plans were developed, we had limited food composition data for these nutrients and meeting full RDA caused substantial distortion of consumption patterns that had nutrient levels below the RDA. Furthermore, there is little or no evidence of deficiency of these nutrients in the United States (USDHHS-USDA, 1986). We also set nutritional goals for fat, cholesterol, sodium, and added caloric sweeteners. These dietary components were limited to maximum levels, which we describe as moderate. This means that they were generally between levels in consumption patterns and those recommended by authoritative groups.

The cost limits for the food plans were set so that we would have plans appropriate for food budgets in essentially all U.S. households and so that each sex-age category would have an equal chance for a nutritious diet.

The last step in the food plan development process is using our computerized mathematical model to derive a food plan for each sex-age category at each cost level. Starting with the food consumption pattern for a sex-age category, the model is designed to select a combination of the 31 food groups that meets the nutritional goals and cost limits we specify and represents the smallest possible total change in the consumption pattern. The model produces small percentage changes in several food groups rather than a large change in one group to meet the nutrition and cost criteria. The resulting food plan provides food for meals and snacks for one week and meets the nutritional needs we have defined.

For every sex-age category at every cost level, food consumption patterns had to be modified to meet the nutritional and cost criteria. This was necessary because none of the food consumption patterns met all of the nutritional goals and cost criteria set for the plans.

The types of nutritional shortcomings in the consumption patterns were consistent across all four cost levels. Calcium, zinc, iron, magnesium, and folacin were the nutrients most often below the nutritional goals. Young children, teenage girls, and women had the greatest shortages of these nutrients. Also, consumption patterns for almost all of the sex-age categories exceeded the maximum levels allowed for fat, sodium, and added caloric sweeteners. Patterns of males 15 years and over exceeded the cholesterol standard.

Costs for the food plans are updated and released each month by USDA. The costs are estimated by updating average prices paid by survey households for all of the foods reported in the survey. The prices are updated using information from the Bureau of Labor Statistics on the change in price indices for detailed food categories from the time of the survey to the month of the estimate (USDL, monthly).

Such information can be used to estimate food costs for households of any sex-age composition by totaling costs for household members at the desired cost level. For example, a reasonable cost for feeding a four-person household with a mother age 20-50 and three children ages 3-5, 6-8, and 9-11 at the low-cost level in January 1988 was $14.20 plus $18.80 plus $21.40 plus $22.00 or a total of $76.40 per week. These costs are based on an assumption that all food eaten by household members is purchased at the store and prepared at home.

Table 1. Cost of Food at Home for One Week, January 1988

	Thrifty	Low	Moderate	Liberal
Child:				
1-2 years	$10.60	$12.90	$15.10	$18.20
3-5 years	11.40	14.20	17.50	21.00
6-8 years	14.00	18.80	23.60	27.50
9-11 years	16.70	21.40	27.50	31.80
Male:				
12-14 years	17.40	24.20	30.30	35.60
15-19 years	18.00	25.10	31.30	36.20
20-50 years	19.40	25.00	31.30	38.00
51+ years	17.60	23.70	29.30	35.30
Female:				
12-19 years	17.40	21.00	25.60	31.00
20-50 years	17.70	22.00	26.80	34.60
51+ years	17.40	21.30	26.50	31.70

USES OF THE FOOD PLANS

Both the costs and the quantities of foods in the plans have a wide variety of users and uses. Perhaps the most notable use of the plans is in establishing food cost standards or food allowances for needy families. Both public and private assistance agencies use them for this purpose. We mentioned that USDA uses the thrifty food plan as the cost basis for setting food stamp allotments. A predecessor of the thrifty food plan -- the economy food plan -- is at the core of poverty thresholds set by the Census Bureau and the Office of Management and Budget. In the 1960's, when the Federal government first began measuring poverty, these thresholds were roughly three times the cost of the economy food plan. Since 1969, when the thresholds were officially recognized by the Office of Management and Budget, the thresholds have been adjusted for changes in the overall Consumer Price Index (Weinberg, 1985).

Other users include the Internal Revenue Service, courts, and lawyers who use the food plans to determine the cost of a nutritious diet when they set rates for care of dependents. State institutions and camps use the plans to estimate food needs and monitor food use. Nutritionists, credit counseling services, and others use the food plans as a basis for food budgeting help for consumers.

Food plan research and development is an ongoing process. Currently, data are being collected for the 1987-88 Nationwide Food Consumption Survey. This new survey will provide the three basic types of food consumption data that we will need to revise the food plans -- data on household food use, food intakes by individuals, and food costs. An updated and expanded nutrient data base will also be available, and with these pieces of information, we can begin the next revision of the plans.

REFERENCES

Cleveland, Linda E., and Betty B. Peterkin (1983), "USDA 1983 Family Food Plans," Family Economics Review, (No. 2): 12-21.

Cleveland, Linda E., Betty B. Peterkin, Andrea J. Blum and Sharyl J. Becker (1983), "Recommended Dietary Allowances as Standards for Family Food Plans," Journal of Nutrition Education, 15(1): 8-14.

Food Marketing Institute (1987), Trends -- Consumer Attitudes and the Supermarket, Washington, DC: Food Marketing Institute.

Kerr, Richard L., Betty B. Peterkin, Andrea J. Blum and Linda E. Cleveland (1984), "USDA 1983 Thrifty Food Plan," Family Economics Review, (No. 1): 18-25.

Rizek, Robert L. (1978), "The 1977-78 Nationwide Food Consumption Survey," Family Economics Review, (Fall): 3-7.

U.S. Dept. of Agriculture. Agricultural Research Service (1962), Family Food Plans and Food Costs, Home Economics Research Report No. 20, Washington, DC: Government Printing Office.

U.S. Dept. of Agriculture. Human Nutrition Information Service (1982), *Food and Nutrient Intakes of Individuals in 1 Day, Low-Income Households, November 1977-March 1978*, Nationwide Food Consumption Survey 1977-78, Preliminary Report No. 11, Hyattsville, MD: U.S. Dept. of Agriculture.

U.S. Dept. of Agriculture. Human Nutrition Information Service (1983a), *Food Consumption: Households in the United States, Seasons and Year 1977-78*, Nationwide Food Consumption Survey 1977-78, Report No. H-6, Washington, DC: Government Printing Office.

U.S. Dept. of Agriculture. Human Nutrition Information Service (1983b), *Food Intakes: Individuals in 48 States, Year 1977-78*, Nationwide Food Consumption Survey 1977-78, Report No. I-1, Washington, DC: Government Printing Office.

U.S. Dept. of Agriculture. Science and Education Administration (1981), *Food Consumption and Dietary Levels of Low-Income Households, November 1977-March 1978*, Nationwide Food Consumption Survey 1977-78, Preliminary Report No. 8, Hyattsville, MD: U.S. Dept. of Agriculture.

U.S. Dept. of Health and Human Services and U.S. Dept. of Agriculture (1986), *Nutrition Monitoring in the United States—A Report from the Joint Nutrition Monitoring Evaluaton Committee*, DHHS publication no. (PHS) 86-1255, Public Health Service, Washington, DC: Government Printing Office.

U.S. Dept. of Labor. Bureau of Labor Statistics (monthly), *CPI Detailed Report*, Washington, DC: Government Printing Office.

Weinberg, Daniel H. (1985), "Measuring Poverty," *Family Economics Review*, (No. 2): 9-13.

USDA'S FOOD CONSUMPTION DATA FOR POLICY DECISIONS: A DISCUSSION

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Food accounts for a large and important share of the total household budget. Proper food selection is essential for good health and well-being. Therefore, food and nutrition policies affect, directly or indirectly, the consumers' welfare. USDA's food consumption surveys provide rich sources of information for policy decisions.

The U.S. Department of Agriculture's Nationwide Food Consumption Survey and related surveys provide rich sources of detailed information to public and private agencies and individuals--including the Congress; the U.S. Department of Agriculture (USDA); other Federal agencies, such as the Food and Drug Administration and the Environmental Protection Agency; state and local agencies; the numerous and diverse food industry; and research and educational institutions.

Research on food consumption may be used in many ways to develop, to administer, and to evaluate public policies--as well as socioeconomic, educational, and regulatory programs associated with the people and the food they eat. Examples include:

- Estimation of those individuals with adequate food and nutrient intakes, or of percentages of households likely to obtain nutritionally adequate diets when spending specified money on food;
- Analyses of income elasticities and marginal propensities to consume in cost-benefit studies of food assistance programs;
- Studies on the effect of family size on economies of scale, the results of which are used to derive food budgets, food allotments, and the value of food stamps to be received;
- Evaluation of regulatory programs, such as for estimating safety levels and tolerances to be prescribed from fortification, additives, pesticides, and other residues in food; and
- Identification of socioeconomic and other factors affecting food consumption as basis for demand projections, assuming no changes in consumer preferences over time.

The USDA Nationwide Food Consumption Survey (NFCS) 1977-78 and its 1985 and 1986 Continuing Survey of Food Intakes by Individuals (CSFII) components have provided major sources of information for developing and evaluating food and nutrition policies and programs. The three studies presented here provide distinct examples of research for these purposes.

Helen Jensen's paper determines the importance of deriving efficient methodology in evaluating those individuals that are at nutritional risk. For the most appropriate policy decisions, it would be most rewarding to obtain food intake and health status information from a large sample, for a number of consecutive days, and over longitudinal time (waves). Budgetary constraints by the researchers and time and other constraints by the respondents limit the use of such methodology. Therefore, an alternative solution is to devise the most efficient method to obtain valid and reliable estimates from existing data.

Helen's paper reminds us that with limited resources, programs can most efficiently allocate resources by "targeting" very specific groups so that program assistances are directed to those most in need. A target group that is too narrowly defined may exclude "too many" in need of assistance and a target that is too wide may permit allocation of assistance to "too many" recipients. Consequently, program policies may be implemented in a manner that may leave those people with inadequate nutritional level short of their needs.

Different methods of assessing the nutritional adequacy of diets are available, depending on the goal and policies of the program. Each method contains advantages (benefits), disadvantages (costs), and limitations. For this reason, policy officials should carefully define and evaluate the requirements of the programs before applying an appropriate methodology.

In the past, USDA has published the results of the Nationwide Food Consumption Surveys by the four Census regions (USDA, 1983 and 1985). Food consumption data from NFCS 1977-78 showed that they differed by region in some respects. For example, more people in the West chose whole-grain breads and used lowfat milk than in other regions, while the mean calcium densities were somewhat higher and thiamin densities were somewhat lower for several sex-age groups in the West than elsewhere.

Frequently, researchers have been asked to provide data on nutrients and food components at a State level. To assist these State public policy officials in program planning, estimates of the nutrient and other food component intakes of the State population are needed. Such information must be calculated from a national level.

In estimating State levels, there are two methods one might consider. They are the econometric approach and the spreadsheet approach. In the latter approach, the mean food and nutrient intakes are classified by the most discriminating variables--sex, age, and race. Then, the mean values are weighted by the proportion of the State population representing the particular category.

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In the econometric approach, statistical models are used to determine the relationship between the nutrient or other component and each socioeconomic and demographic characteristic (region, urbanization, income, race, etc.). These nutrient relationships with the characteristics are then used with the Census data on the distribution of the population in the State by the characteristics to estimate the average nutrient or food component levels in the State. Bob Raunikar used this approach to estimate nutrient levels of food energy, fat, calcium, iron, and vitamin C for each of the 48 conterminous States.

For both approaches, strong assumptions are made--that food and nutrient levels in a specific State are the same as in the nation (or region) as a whole for people of the defined characteristics. One also assumes that aside from those factors (sex, age, urbanization, race, income, etc.), the "average" individual in a specific State is like the average individual in the nation--that is, in terms of their preferences.

In addition, caution should be exercised regarding some survey specific problems. For example: (1) Since sampling for NFCS is done on a regional basis, some States may not be among those included in the primary sampling unit (location of surveyed households). Consequently, for any State in a given region, it must be assumed that the population in that State has consumption patterns that are similar to those of the other States in the region; (2) some subpopulation groups (Puerto Ricans, Vietnamese, etc.) are not represented in sufficient numbers to provide estimates at the national level and more so at the State level; and (3) socioeconomic and demographic variables in the survey data that can be matched to the State level would be limited to the information that is available from the Bureau of the Census or other sources of State information.

Our third presentation focuses on one of the most popular uses of USDA's Nationwide Food Consumption Survey data--the USDA Food Plans. As Richard Kerr's paper indicates, these Plans have strong policy implications to consumers. Perhaps the most known is the Thrifty Food Plan that is used as the cost basis for setting food stamp allotments. Homogeneity (or fixed quantity) is assumed in a market-basket approach as the Food Plans. Although adjustments are made for economies of scale for different household sizes and varying food costs for different months of the year, this approach does not adjust for other factors, such as race, region, and seasonality in food selection. Also, the present Food Plans are based on the results from the 1977-78 survey.

The period between the last nationwide survey and now has witnessed the proliferation of new food products. Changes in patterns of food consumption are inevitable--reflecting economic changes in incomes, relative food prices, and demographics. Other factors may also contribute to changing food consumption patterns: an increased frequency of eating away from home, a greater emphasis on ethnic foods, ready-to-eat convenience foods, and popular use of aseptically packaged milk and beverages. Since 1977-78 there has been increased concern about the relationship between diet and health, resulting in a greater variety of low-sodium and low-fat products becoming available. Also, revisions in food programs--such as the Food Stamp Program, the School Lunch Program, and the Women, Infants, and Children Program (WIC)--may have influenced intakes of their participants.

In April 1987, USDA began collecting the seventh Nationwide Food Consumption Survey (NFCS 1987) (Hama and Riddick, 1988). The NFCS 1987 is comprised of a sample of about 6,000 households of all incomes and a sample of 3,600 households of low incomes. Both the household food consumption and the individual intake phases are included in this survey. For the first time, interviewers used laptop computers to collect the data in the household phase. It is expected that this methodology will provide information to the public in a more timely manner.

The NFCS 1987 is one of several Federal surveys that provides national statistics on food consumption. It is a major component of the National Nutrition Monitoring System (NNMS), a set of related Federal activities instituted to provide regular information on the nutritional status of the population.

The USDA initiated the Continuing Survey of Food Intakes by Individuals (CSFII) in 1985 and 1986. The CSFII was designed to monitor the dietary status of relatively small national samples of women and young children in the general and low-income populations in the years between the larger decennial surveys, such as the NFCS 1987. Plans call for conducting the CSFII in 1989 on a continuing basis, with data collection each year to obtain information on food intakes over 3 consecutive days by all household members in 1,500 households in the general population and 750 low-income households. As a followup to the CSFII 1989, plans call for a telephone survey of consumer knowledge and attitudes about certain diet/health and safety issues. This followup study will provide the basis for studies of food intake behavior relative to knowledge and attitudes on a national sample.

With increasing knowledge about up-to-date consumers' food consumption patterns, USDA's food consumption surveys supply information that makes it possible to form sound policy decisions and program alternatives.

REFERENCES

Hama, Mary Y., and Howard A. Riddick (1988), "Nationwide Food Consumption Survey 1987," Family Economics Review, 2: 24-27.

U.S. Department of Agriculture, Human Nutrition Information Service (1983), Food Consumption: Households in the Northeast (North Central, South, West), Seasons and Year, 1977-78, NFCS Report No. H-7 (H-8 through H-10).

U.S. Department of Agriculture, Human Nutrition Information Service (1985), Food and Nutrient Intakes: Individuals in Four Regions, 1977-78, NFCS Report No. I-3.

FINANCIAL PLANNING FUNDAMENTALS FOR HIGH SCHOOL STUDENTS

Beth Schiever, College for Financial Planning[1]
Donna Crudder, Eastern Michigan University[2]

The College for Financial Planning provides a High School Financial Planning program without cost to teachers, as a public service of the college. The objective of the program is to help students learn to be responsible with money.

HIGH SCHOOL PROGRAM

The High School Financial Planning Program is a public service of the College for Financial Planning in Denver. The program introduces students to goal-setting, earning, spending, using credit, protecting against risk, and investing. A team-teaching approach is suggested between the classroom teacher and a professional financial planner. An Instructor's Manual is provided to high school teachers who participate in inservice workshops.

The College

Established in 1972 as an independent, nonprofit corporation, the College for Financial Planning enjoys an international reputation as a respected institution in the financial planning field. Currently more than 26,000 financial service professionals benefit from the College programs, including the CFP Professional Program which leads to the CFP designation.

A Financial Concern

A concern of the College is that many Americans do not know how to wisely plan and manage their money. Personal bankruptcies continue to be a financial problem for many, and Social Security Administration statistics show that at age 65, only 1 out of 10 people are able to take care of themselves financially.

Teenage Spending

A recent Wall Street Journal article reported that teens spend approximately $78 billion dollars a year with $32 billion being spent on discretionary items. Other studies indicate that teens have access to more than 3.5 million credit cards.

Teenagers are often the target for major advertising campaigns, they sometimes have poor spending habits, and may be misled by the premature affluence of their teen years. Units in personal finance in the high school curriculum could help teens gain financial decisionmaking skills and avoid serious financial errors.

A Teacher's Manual

In 1984 the College introduced the High School Financial Planning Program as a public service. The objective of the program is to help students learn to be responsible with money, to spend wisely and to make informed financial decisions. A basic concept of the program is that financial planning is a life-long process, not just a series of products. The program has been introduced to more than 30,000 students in approximately 490 high schools in 45 states.

The curriculum contains six one-hour units including financial planning basics, earning income, spending, using credit, protecting against risks, investing, and matching a financial plan to personal goals. The manual also provides teaching aids such as transparency masters, student handouts, quizzes and case studies.

Financial planning units are often taught in high school courses in business, economics, home economics and math. The program encourages a team-teaching approach that uses the combined expertise of a classroom teacher and an experienced local volunteer financial planner.

For Further Information

Teachers and teacher educators who would like further information about the program and the 1988-89 revised edition of the instructor's guide should write to High School Financial Planning Program, College for Financial Planning, 9725 East Hampden Avenue, Denver, Colorado 80231.

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DEMYTHOLOGIZING, DEBUNKING AND DELINEATING 'DEREGULATION'

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Recently, most of the Congressional subcommittees with jurisdiction over banking have been conducting hearings and undertaking studies on what the future shape of the banking industry ought to be. Given the importance of banking to consumers in performing their many and varied financial functions, the form and structure which banking ultimately takes is obviously then of crucial importance.

One of the single most distinguishing characteristics of banking as contrasted with most other important consumer-oriented industries has been the sheer amount and degree of regulatory oversight to which financial institutions (hereinafter "banks") have been subjected historically. And, perhaps no aspect of present banking structure has come under closer scrutiny in the current Congressional debates than has the role of the regulation of banks, and the costs and outgrouths of regulation, both specifically and generically.

It is important in considering the role of regulation on the shape of banking in the future to understand the public purposes undergirding bank regulation in the past. With an appreciation for why banks have been regulation in the past. With an appreciation for why banks have been regulated, one can then examine what changes might be expected to occur if parts of that regulatory web are relaxed or eliminated and what those changes portend for banks, for their consumer customers, and ultimately for the shape of future regulation.

Historic Bases For Regulation

Banks have generally complained of the level of regulation to which they have been subjected. They argue that regulation imposes costs, and that as economic entities, they are required to pass such costs along to their customers in the prices of their products and services. While regulation undoubtedly imposes costs in a economic sense, it has nonetheless been widely imposed upon banks. Presumably then, regulation has been imposed notwithstanding these costs to serve various public policy goals. What are these goals, these historical bases that have led to such relatively expansive (and arguably expensive) regulation?

Banks historically have been subject to governmental oversight for three primary public purposes. First, they have been regulated to assure their institutional solvency, their safety and soundness. Second, they have been regulated to promote certain societal goals, the achievement of which is viewed as being inextricably intertwined with the unique and peculiar functions served by banks. Third (and most recently), they have been regulated to provide 'consumer protection', i.e., to adjust perceived imbalances in bargaining power as between the seller and the typical (retail) buyer of banking services to remedy legislatively perceived imperfections in unfettered market operation. It is worthwhile to examine each of these bases briefly.

1) Safety and Soundness

The principal historical basis for bank regulation has been to promote the safety and soundness of banks. Throughout the history of this country, banks (and indeed, the economy generally) have performed in a highly cyclical manner. History is replete with cycles of boom and bust when numerous banks were established and operated over relatively short life spans, and then closed in waves of economic chaos that created enormous hardships for businesses, individuals and entire communities.

Given both the crucial importance of banking to an expanding and growing economy and the disruptive economic and social fallout in such a pattern, these recurring cycles of success and failure were widely resented and viewed as highly undesireable. Accordingly, numerous legal constraints evolved whereby governments imposed various requirements on banks so as to moderate the volitility of such wild and potentially devastating swings in economic activity.

The focus of such regulation on banks reflected a widely accepted awareness of the critical role that banking functions played in enabling, promoting or crippling the level of overall economic activity. Examinations were mandated; capital requirements were instituted; restrictions or prohibitions were imposed on banks preventing them from engaging in various practices.

2) Promotion of Societal Goals

Until relatively recently, the societal goals sought by the regulation of banks have fallen primarily into two identifiable groupings. Frist, banks have been regulated to restrict undue concentrations of economic power. Second, they have been regulated to promote the availability of various bank services, especially credit.

a. Concentration

Banks historically were viewed by a largely agrarian society as possessing undue and potentially dangerous concentrations of economic power if left to their own devices in unrestricted markets. The laws of the country, particularly those in the initially almost exclusively agricultural Midwest and South, reflected the distrust of the population generally for such potential concentrations of economic power.

State laws in the upper Midwest, for example, have only recently begun to relax the prohibitions on branching or interstate ownership of banks. Vestiges of this fear remain to this day in such acquisitions only on a relatively tightly controlled and regional (as opposed to national) basis. Even one of the pending Congressional proposals would still restrict inter-industry mergers or acquisitions based on the size of the involved institutions.

Such restrictive regulations were promoted as well by many bankers in the guise of restricting concentration when what was in fact feared was competition from other institutions. The underlying motivation is less important than the fact that restrictions were sought by many different interests and justified in large part based upon the fear of concentration. The efficacy of such regulatory restrictions against undue concentration is best reflected in the sheer number of banks in the USA--over 14,000, by far the greatest number in the world.

b. Availability of Services

Unconstrained banks, like any other entity whose primary purpose is the maximization of profit, will endeavor to serve those markets where the total return on investment is optimized. Thus, a bank will, all other things being equal, lend where its risk-return trade-off is optimal. While this may be efficient in a raw economic sense, it also leads in many instances to selected markets or populations being underserved or unserved, or to being served at unacceptable cost. As banking services, particularly credit services, are crucial to most if not all economic activity, situations wherein these services have been inadequately available have then been widely viewed as intolerable, particularly by those for whom credit supplies are inadequate in amount, exorbitant in price, or simply unavailable.

Accordingly, a variety of legal inducements or mandates exist to encourage or require banks to serve various targeted markets. Perhaps no area of economic activity has benefitted more from this governmentally-directed targeting than residential housing finance. Many economists have pointed out the inherent relative weaknesses of housing finance--for example, it is, given its inherent long-term nature, structurally more exposed to the problems of interest rate volitility, and it does not add to nor enhance future income producing capacity.

Yet, despite such structural weaknesses in housing finance, no country on earth possesses the residential housing stock of the USA. This phenomenon is the direct result of numerous governmental policies designed precisely to promote the relative attractiveness of residential purchase financing to both borrowers and lenders. For example, mortgage interest and real estate property taxes are essentially wholly deductable against state and federal income taxation; capital gains can be deferred and in many instances totally avoided; tax advantages are given to certain institutions engaging in housing finance to specified levels; and numerous programs exist whereby governmental assurances reduce risk in housing lending to the point where institutions deem it attractive to engage in such activities.

Further important examples of this phenomenon abound. Federal deposit insurance on deposits made into banks attracted funds in massive amounts for such purposes. Interest rate ceilings kept the interest rate volitility risk to a minimum, thus furthering the feasability of the long-term financing which is characteristic of residential housing lending.

Similarly, other forms of governmental requirements and inducements trigger the availability of other banking services in various markets. The Community Reinvestment Act specifically creates a duty for financial institutions to lend in certain markets where presumably they would not lend absent such a requirement. New York State allows state-chartered banks to invest in real estate in direct proportion to the adequacy of their performance under the New York State Community Reinvestment Act. In a like manner, many jurisdictions are requiring (or considering requiring) that banks provide basic consumer banking services on a lowcost basis.

The critical factor for purposes of this discussion is that these regulatory strictures are in place to promote a specific societal goal, namely, greater availability of banking services and thus more widespread participation of various population segments in the traditional financial services system.

3) Consumer Protection

The most recent basis for the regulation of financial institutions has been to redress the perceived imbalance in the relative bargaining power between banker and retail customer, the consumer. Thus, institutions have been directed to conform their consumer contracts to prescribed forms, to give standardized disclosures of information to prospective customers, and to refrain from including certain provisions in their contracts or engaging in specified actions. All of these can be classified as regulation to the end of consumer protection.

The basis for such regulation is founded upon an implicit recognition that competitive forces may not sufficiently exist in certain markets so as to preclude various objectionable practices or to encourage other desireable (admittedly, as legislatively defined) market characteristics. Accordingly, the government has inserted itself into the business of 'bargaining' for the consumer thus attempting to remedy the perceived imbalances in negotiating power. Whether these actions truly optimize consumer interests or not is not pertinent to the fact of the existance of such a widespread basis for regulation.

This consumer protection has typically taken two distinct forms. First, the law requires that various transactions be preceded by standardized disclosures of information and that contracts be written in specified ways, often in easily comprehensible language. The underlying theory is that consumers will make rational decisions in their own self-interest if they are given the information necessary to exercise an informed opinion, in a format which they can understand, and at a time when it is meaningful. The existence of such information is, of course, one of the prerequisites for competitive markets.

The other primary form of consumer protection regulation consists of substantive requirement, either mandate or prohibition. Thus, for example, financial institutions must engage (or refrain from engaging) in certain procedures when attempting to collect an obligation, or in contract formation or enforcement. The range of such regulations on both the state and federal level is extensive.

The Deregulation Phenomenon

To state that banking has been going through a revolution has become a cliche. In considering the role of regulation in this revolution, the basic forces precipitating change must be analyzed. At least three major factors have been identified as being primary in driving this revolution.

1) Inflation

The inflation of the 1970s and 1980s altered the way in which consumers valued assets. When inflation was relatively high, the relative value which consumers placed on financial assets declined and they sought to protect their worth in tangible assets. Equally important, the fear of future inflation also diminished the relative value of financial assets. As financial institutions deal almost exclusively in financial assets, the quite predictable impact on those institutions was enormous and generally adverse.

Another major impact of inflation on banks arose from the diminished attractiveness of the relatively meager returns which banks paid on their deposits in an inflationary economy. Literally hundreds of billions of dollars fled depository institutions in a few years to seek the higher returns of the money market mutual funds. Locked in a regulatory straight-jacket which restricted their ability to pay competitive rates, banks suffed enormously from the resulting disintermediation.

2) Demographics

The migration of enormous amounts of core deposits experienced by banks due to this inflation-driven disintermediation was accompanied and accelerated by concomitent increases in age and wealth of the population as a whole. This trend was critical given the differing financial services needs that consumers have during the various stages of their life cycles.

As consumers become older and increase their net worths, they typically become net lenders to banks (i.e., savers) in contrast to their earlier status as net borrowers. In other words, since consumers in the aggragate were changing demographically, the makeup of the services (again in the aggragate) that they wanted from banks was also changing. Inflation was eroding the value of deposits just as the population was shifting to a greater preponderance of net savers, i.e., depositors. Savings rates had been regulatorily constrained--in large part to provide the necessary stable base of funds to promote housing finance. Accordingly, the political pressures which had previously favored borrowers at the expense of savers began to shift. The result was a demand for 'deregulation' of savings rates.

The general rise in net worth of consumers also affected financial structure. Consumers with funds to lend to banks in the form of deposits were becoming increasingly attractive to banks. Much of the banks' core business--commercial lending-- was bypassing them and going directly to the expanding commercial paper markets. Those commercial deposits remaining were concomitently becoming increasingly skittish. Consumer deposits, in contrast, were relatively stable, generally cheaper, and, perhaps most importantly, increasingly abundant. Banks saw an expanding base of ever more attractive consumer deposits at the same time that their traditional commercial deposits were becoming scarcer and more expensive. Thus, in order to attract and retain consumer deposits, the banks found themselves increasingly allied with consumer savers in calling for 'deregulation' of savings rates, notwithstanding the recognition that this would generally lead to an increase in the costs of those consumer deposits to the banks.

3) Technology

The third major trend influencing the push for deregulation was the evolution of both modern data processing and telecommunications technologies and their application to consumer financial services. Data processing technology evolved to the point where it became economically feasible to provide relatively sophisticated services on consumer-sized financial products. Revolving credit, often with variable interest rates, and relatively sophisticated deposit services--both saving and paying--became profitable for banks and eagerly and widely enjoyed by consumers. Services that had previously been economically viable only for larger, typically commercial transactions became routine even for relatively modest consumer purposes.

At the same time, telecommunications capabilities mushroomed. It no longer was necessary to perform banking transactions on a face-to-face basis. Banks could 'talk' and thus do routine business with their customers at great distances and at hours convenient to customers. Consumers flocked to automated teller machines to perform certain specified types of transactions. Banks viewed such technologies as both important marketing tools and significant potential cost saving mechanisms. Technology had enabled banks in many important respects to overcome the constraints of time and distance.

Impacts

These three major trends have been affecting the makeup of the consumer population, what they want from banks, how banks could and did provide services, and the costs for doing so. These forces in turn precipitated many changes in the kinds of products offered by banks, the delivery means utilized and the pricing structures attendant thereto. But, to paraphrase Isaac Newton in an admittedly different context, for every action there exists a reaction. A cursory examination of some of the reactions engendered by these occurrences is instructive.

As suggested above, at least two major trends contributed to political pressures to relax or eliminate restrictions on interest rates. Inflation made traditional savings instruments in banks less attractive in terms of their return. Demographic changes wherein consumers became both older (and thus more likely in the aggragate to be net savers) and wealthier (and thereby more likely to be moved to express themselves politically regarding the deleterious impacts of inflation on their typically larger savings) led to increased pressures to deregulate interest rates paid on deposits. Banks, seeking to curry favor with increasingly attractive consumers joined in such political efforts. In large part due to this public pressure, interest ceilings were phased out and banks were given the authority to pay whatever returns the market might demand. (1,2)

[These evolutions can be displayed visually, and are in the chart at the end of this paper. (Specific representations in the charts conform to the evolutionary effects identified in the text and are included both in the chart, and in the text, in parentheses.)]

At the same time, new products and services were developed at an unprecedentedly rapid rate. In part, new products were developed in response to demographic changes, as consumers became wealthier and relatively more attractive to banks as sources of deposits. (3) Variable rate instruments, sweep accounts, repurchase agreements, and asset management accounts all developed to attract and serve the changing consumer. And, technological innovations enabled and encouraged the provision and delivery of new, complex and relatively broadly available products as never before. (4)

The evolution of data processing techniques and their widespread application to the formation and delivery of retail financial services contributed substantially to another important development. As new products were introduced utilizing those technologies and existing products were increasingly adapted to them, the ability (and indeed the incentives) to price financial services explicitly expanded. The capital intensive nature of the costs involved in utilizing the new technologies made the 'true' cost of providing the services more apparent (or, at least, seemingly so in light of the substantial costs of many of the accoutrements of those technologies). It also highlighted the costs of employing such technologies, and thus contributed to the concurrently emerging tendency toward explicit pricing of services.

The result has been a generalized unbundling of prices. Minimum balance requirements became widespread; periodic fees were introduced for credit card accounts; additional changes were widely imposed for returned items, telephoned transfers, stop payment orders, etc. Similarly, newer products were also generally explicitly priced. The days of the 'loss leader' demand deposit account came to an end. Implicit in this trend toward explicit pricing was a decline in the degree and amount of cross-subsidization which had previously been common if not indeed the norm with respect to the pricing of retail financial services. (5)

But, as is almost always the case, changes precipitated by underlying forces within the economy engendered further changes as banks and consumers adjusted and reacted to them. For example, the repeal of interest rate restrictions on deposit instruments led to a generalized increase in the rates paid by banks to attract and retain deposits. But, since deposits constitute the primary source of funds for loans, this increase led, in the absence of other actions by banks, to reduced spreads between the cost of funds and the rates charged for loans. Banks, wishing to maintain profitability, raised loan rates where possible.

But, banks were (and are) not free to simply raise loan rates in lock step with their costs of funds. As loan rates rise, the riskiness of those loans generally increases and the likelihood of defaults, chargeoffs and the increased costs associated therewith also increases. Thus, banks are typically constrained from raising loan rates as much as deposit rates. Accordingly, banks turned increasingly to imposing additional charges and fees for their services. (6) This helped to maintain profitability and also helped to reduce risk by realizing revenue at an earlier point in the course of an ongoing transactional relationship. These explicit charges also contributed to the previously described tendency toward reductions in cross-subsidizations as between various products.

Reduced spreads and the resultant increasingly explicit fees also contributed to reassessments of overall product mix. As certain traditional products became relatively less profitable, banks quite naturally began to deemphasize those products as compared with other, potentially more profitable offerings. (7) Just as they reviewed their product mix, they concomitantly reviewed particular markets or target populations where relative profit potential was believed to have declined and moved, where applicable, to other markets or target populations to perceived to have greater profit potential. These changes in product and market focus were aided and encouraged by the previously mentioned increased ability to cost various services offered to different markets, and the generalized trend to reduce cross-subsidizations. (8)

The development of newer, more sophisticated products also engendered structural developments. As these newer products were increasingly offered via telecommunications technologies and operated in largely or entirely automated modes, products and services could be offered over greater distances and in more numerous and diverse markets. Once the consumer could deal with his or her bank across town via an automated teller machine and a switch, conceptually it was just as easy to deal with that bank across the county, the state or the country.

But, the balkanization of banking which has characterized the industry made it unlikely that the consumer's particular bank had any presence across the county, state or country. Thus, banks began to cooperate to offer interchange services so that they could utilize the new technologies to service (and thus retain) their customers at distant points. The bank (credit) card industry evolved into two enormous institution-controlled networks--VISA and Mastercard--wherein thousands of individual banks cooperated to provide services. Similarly, shared automated teller networks proliferated to allow customers with one bank's card to do business through the terminals of distant banks. (9,10)

Technological capabilities and demographic changes have enabled or led banks to offer a greatly expanded menu of products and services. Many of these products and services are relatively new to banks and bankers. They are thus offering many unfamiliar products, often in markets with which they have little if any experience, and typically, in competition with more experienced purveyors. Asset management accounts compete, for example, with those developed and pioneered by the major brokerage houses. Similarly, various insurance products are relatively unfamiliar to many banks and they are competing in what is, in many instances, a highly evolved and aggressively competitive market. Participation in such markets inherently can create greater overall degrees of risk for banks than those previously faced. (11,12)

But, banks and bankers (like all economic entities, including consumers) are generally adverse to risk-taking. Wherever possible, bankers will attempt to avoid taking risks. In response to increased riskiness then, bankers have reacted quite predictably. First, they have taken steps to disperse risks. In several key instances, consumer financial products have been changed in such a way as to shift risk to consumers. (13)

Perhaps the most prominent example of this has been seen in the growth of variable rate loans, first with mortgages and then with home equity lines and non-mortgage consumer credit. Shifting interest rate volitility risk from lender to borrower clearly is advantageous to lenders. This advantage is reflected in the generally lower initial interest rates available with variable rate instruments as contrasted with fixed-rate instruments.

The second major way in which bankers have acted to address a more risky environment is by attempting to diversify their offerings. (14) Diversification of products helps to insulate bankers from downturns in particular markets. Thus, bankers have engaged in a broader range of services, including in many instances new and unfamiliar markets. (15) This, as explained, holds the potential of in turn leading to future problems of increased riskiness.

But, simply shifting risks to consumers has not been universally viewed as acceptable or desireable. The proliferation of new consumer products and services has, predictably, precipitated calls for, and, in several instances, enactment of regulations defining and restricting the terms of these products (e.g., caps on variable rate mortgages) and requiring disclosure of pertinent terms (e.g., open-end credit plans and home equity lines of credit). (16)

Change and the Bases of Regulation

Reflecting on the historic bases for the regulation of banks, it appears that many of the considerations which originally prompted various legislative and regulatory enactments have counterparts in modern times, as a result of the natural evolutionary process described above. Underlying trends have led, as shown, to the potentials for:

- increased riskiness (12);
- consolidation or sharing among ostensible competitors (10);
- reduced or eliminated availability of access to products or services for particular markets or target populations or both (7,8);
- undue transfers of risk(s) to consumers (13);
- inadequately described or understood new products and services (3,4); and,
- products needing substantive shaping, restriction, or disclosure to protect consumer (13,16).

These potentials, as indicated below, correspond to the historic bases underlying bank regulation.

Historic Bases for Bank Regulation

I) Safety and Soundness
II) Promotion of Societal Goals
  A. Prevention of Undue Concentration
  B. Availability/Access to Services
III) Consumer Protection
  A. Disclosures
  B. Mandated/Prohibited Practices

I) Safety and soundness considerations become of greater regulatory concern when banks may engage in more higher-risk activities. This may well, in fact, be the case as seen in the chart at step (12) II) A. Similarly, consolidation or sharing issues are but another way of expressing concern about concentration. Step (10)

II) B. Difficulty involving access to services--disenfranchisment from the traditional banking system--may also be a logical outgrowth of current evolutionary tendencies. Steps (7) and (8).
III) Consumers faced with new products, many of which involve risk-transfers to them, often are in need of consumer protection, both by way of disclosure and through substantive restrictions. Steps (13) and (16)

Perspectives on 'Deregulation'

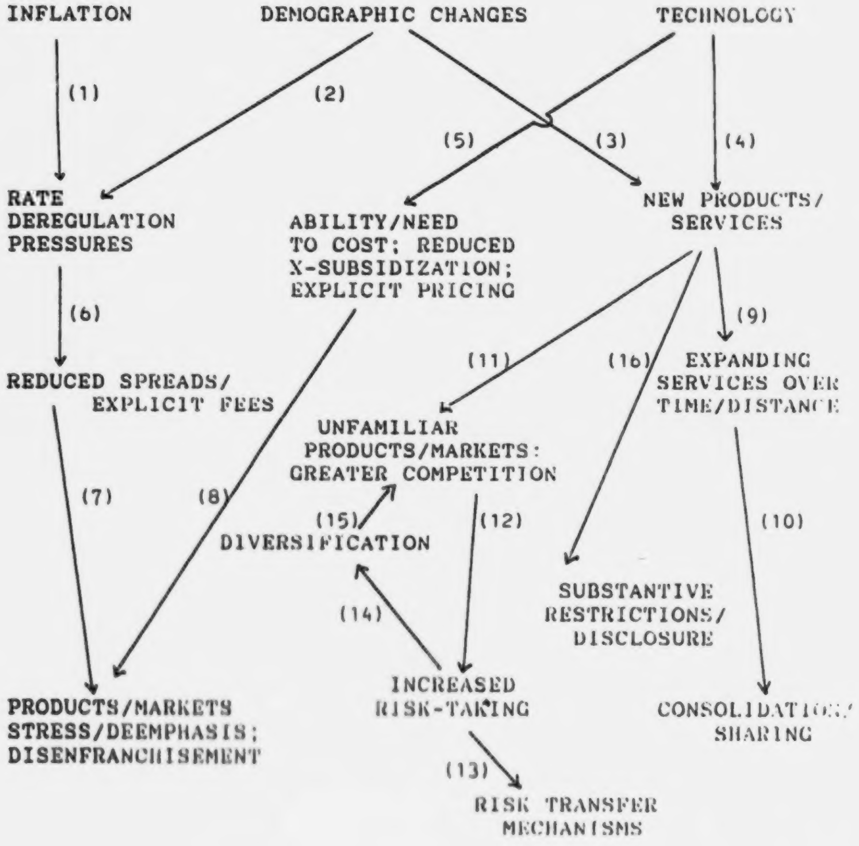
Many opponents of the regulation of banks generally have seized upon the superficial popularity of (the supposed) lowering of bank costs through the wholesale elimination of regulation as a crusade against which can only be aligned anti-business, anti-consumer economic Luddites. It is frequently suggested that modern financial services markets are such that we not only can but should rely primarily on competitive forces to 'regulate' those markets. Despite the generalized benefits which consumers as a group realize from meaningful competition, this view, taken in an historical context and without elaboration, appears naive. While attractive on a relatively simplistic theoretical basis, this view appears to give insufficient weight to the public policy goals sought by bank regulation, and the likelihood of the inadequacy of market forces fully to realize those goals in a sufficiently broad range of markets and instances.

Meaningful competition is predicated on the presence of a variety of factors, including complete and comprehensible information, numerous purveyors and the absence of substantial inhibiting costs for exercising alternative choices. Quite clearly, many markets do not possess all these prerequisite factors in sufficient quantities to fully and adequately 'regulate' them to achieve the ends of the historic type described above. Accordingly, government intervention becomes not only unobjectionable, it becomes, given the importance of affordable and available banking services to economic activity, a necessity. The critical issues then are the optimal amount and form of regulation of banks. How are the costs of regulation weighed against the public policy benefits intended by such regulation?

This is not to suggest that the regulatory regimens of the future ought, of necessity, be similar to (or even resemble) those of previous eras. They may or may not ideally conform to previous structures, depending, for example, on the goals sought as a matter of public policy. But, the history of the regulation of banks suggests that future regulatory regimens reflect both the unique and crucial nature of banking functions in our economic society, and the naturally occuring evolutions in banks, banking and society.

The history of banking regulation suggests that naturally occuring marketplace evolutions leading to changes in the costs, forms or availabilities of crucial banking services, may, for recurring public policy purposes, also lead to regulatory responses to address and shape those developments and their outgrowths. The recurrence in modern times of many of the forces and phenomena giving rise to extensive bank regulation in the past suggests that banks will, in all probability, always be subject to substantial degrees and types of regulation. This appears to be a function of the nature of banking services themselves, their importance and the markets in which they operate. Hopefully, this brief exposition of the history and purposes of bank regulation and the evolving world of banking will enable the public policy discussions regarding bank 'deregulation' to proceed on a more rational and substantive (and less emotional) basis.

CHART III


INFLATION
DEMOGRAPHIC CHANGES
TECHNOLOGY
(1)
(2)
(5)
(3)
(4)
RATE DEREGULATION PRESSURES
ABILITY/NEED TO COST; REDUCED X-SUBSIDIZATION; EXPLICIT PRICING
NEW PRODUCTS/ SERVICES
(6)
(9)
(11)
(16)
EXPANDING SERVICES OVER TIME/DISTANCE
REDUCED SPREADS/ EXPLICIT FEES
UNFAMILIAR PRODUCTS/MARKETS: GREATER COMPETITION
(7)
(8)
(15)
(12)
(10)
DIVERSIFICATION
(14)
SUBSTANTIVE RESTRICTIONS/ DISCLOSURE
INCREASED RISK-TAKING
PRODUCTS/MARKETS STRESS/DEEMPHASIS; DISENFRANCHISEMENT
CONSOLIDATION/ SHARING
(13)
RISK TRANSFER MECHANISMS

THE PERIL OF INFOMERCIALS AND CABLE NETWORK CLEARANCE

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Infomercials, program-length television commercials presented as objective programming content, blur the boundaries between commercial and noncommercial messages. This study identifies and defines the varous product categories and program titles associated with this new form of broadcast advertising. Since the cable industry carries most of these commercials, advertising acceptance standards and guidelines applied by cable network representatives were investigated through telephone interviews. Results from the interviews are presented.

Since the Federal Communications Commission removed prohibitions on program-length commercials, it has become increasingly common practice for stations and cable networks to fill available fringe time with commercial advertising. "Infomercials," are 30 to 120 minute long sales efforts designed to appear to be regular programming. For example, they are even accompanied by their own spot advertising breaks within the "program" to create the impression of regularly scheduled programming with traditional commercial breaks. Yet, in reality, the entire program is a concerted sales effort produced and purchased for and by the advertising sponsor. This televised commercial programming differs in length, format and overall content from traditional television advertising. Given their growing use on several of the advertising-supported cable television networks, serious questions exist regarding the responsibility of media organizations towards their audience.

TERMINOLOGY, CHARACTERISTICS AND CONTENT

"An Ad is an Ad is an Ad"

It must be noted at the outset that these program-length commercials are so new that there does not yet exist a single recognized industry name for them. The term "infomercials" herein is used for convenience, not because of its universal acceptance. Each firm seems to use its own set of terms, such as "program buys," "program-length commercials," "DRs" (for "Direct Response Programs") or "sales programs," in addition to "infomercials." However, consistent applications occur within the confines of a single media organization.

To Entertain and Sell

The term infomercials is a recognition that such programs do not clearly present themselves to viewers as advertising. As such, the "infomercials" neologism recognizes the hybrid format. Infomercials incorporate elements of news magazine and talk show formats that audiences have come to associate with straight forward informational programming, yet they are produced and programmed as a commercial sales message.

Media observers have criticized the increasingly "infotainment" characteristics of news and public affairs programming. Rapping (1987) has noted that noncommercial programming of television news magazines and talk shows always includes three elements: entertainment, information and sales. Similarly, these three elements can be observed in most commercial advertising. However, it is not the elements *per se* but how they are used that defines the format of programming and, in this case, differentiates infomercials from other types of commercial advertising.

Infomercials are presented as objective programming content to the viewers, blurring the boundaries between commercial and noncommercial messages. In addition, since television news magazine and talk shows have become the primary vehicles through which issues are presented and analyzed in our society (Rapping 1987), these formats may lend infomercials a credibility advantage that goes to the heart of numerous audience comprehension-miscomprehension-deception issues (Hayes 1987; Kerton and Bodell 1987; Preston and Richards 1986; Rotfeld 1983). For example, the infomercial, "Consumer Challenge," which promotes MDR fitness tabs, begins with the announcer proclaiming, "Consumer Challenge; Today we will investigate MDR Fitness Tabs: New product or consumer rip-off?"

Another problem is that these infomercials are often for the same products frequently found in the back pages of magazines. Referred to as "back of the book" advertising, they are seen by many advertising practitioners as a detriment to the practice and image of the entire advertising business (LaBarbera 1981b). However, in magazines these ads are buried in the final pages and not disguised as news. In fact, magazines often list on the advertising rate card a requirement that all advertising be clearly identifiable as such by either layout or style. Those ads that might be confused with editorial content by some readers carry labels, "advertising" or "advertisement" (Rotfeld and Parsons 1987).

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Instead of targeting a few, special interest audiences that magazines are designed to reach, broadcast infomercials have the potential to reach much larger population groups. The basic cable services allow infomercials to reach national audiences. It remains unclear what the basic advertising-supported cable networks might be doing to limit the potential audience deception associated with infomercials.

Information Content

Consumer-interest professionals have historically fought for informative advertising that provides consumers with facts that can be applied to efficient decision-making. However, because of time constraints, television advertising has been characterized as providing more puff and fluff compared with the more informative nature of print media advertising. With their greater length, infomercials can theoretically provide more information which could aid consumer decision making. For example, SoloFlex disseminates an infomercial possessing strong potential to assist consumer decision-making. The thirty-minute infomercial is a demonstration which provides details about the characteristics and appropriate use of the product and is also distributed as a videotape "brochure." From a consumer-interest perspective, other infomercials are not as utilitarian.

Most infomercials use one of three general formats to distract viewers from the fact that the information is purely a sales message:
(1) general news magazine or news documentary;
(2) talk show; or
(3) investigative consumer product review show.
All include various sales practices subject to past Federal Trade Commission rules, regulations and restrictions: claims alleging support from tests; reports or surveys; demonstrations and mockups of product usage; and celebrity and consumer endorsements. However, in these program formats, the information acquires an aura of objectivity as distinct from more familiar, traditional sales messages.

As seen in Table 1, five of the seven basic categories of infomercials cover product areas with potential for consumer abuse: personal wealth and financial investment plans; weight loss and weight control plans and products; hair loss remedies; anti-aging/age reversal preparations and health products.

Blurring Commercial and Noncommercial

Media critics and consumer advocates have struggled to maintain a distinction between editorial/programming and commercial content. Originally, the main form of television advertising was sole sponsorship with one advertiser possessing total financial responsibility for a program. Sponsors gained access to the commercial aspects of programming by having a visible product billboard during the credits or by the show's star doing commercial presentations or introducing commercial breaks. Infomercials are more than sole program sponsorship. Sponsored programs still exist, but with an infomercial the sponsor no longer simply finances the program, which might lend indirect influence on content and direct control of commercial air time, the sponsor *is* the entire program.

The Federal Communications Commissions' removal of restrictions on the broadcast of program-length commercials, coupled with the ever-increasing numbers of new economically marginal cable stations in need of advertising revenue and programming to fill open time, have provided a situation suited for the growth of this program format. Even some of the strongest of basic cable services have programming and advertising needs that they cannot currently fulfill on their own (Motavalli 1987).

Table 1. Infomercial Categories

1. PERSONAL WEALTH/FINANCIAL INVESTMENT

Program	Product
.Building Personal Wealth	. Tax Avoidance Digest . Coin Investment Kid . Family Preventive Law Pack . Lottery Busters . Secrets of Winning Sweepstakes . Penny Stock News
.Secrets of Winning Black Jack	. Home Black Jack Study Course
.Millionaire Maker	. Ed Beckley's No Down Payment Seminar Course

2. WEIGHT LOSS/WEIGHT CONTROL

Program	Product
.Look At Me Now	. Look at Me Now Diet Plan
.Can You Be Thinner?	. Diet of the Stars . The Multitrym Diet System
.Freedom From Fat	. Freedom From Fat Diet
.Saundra Brooks Diet	. Saundra Brooks Diet Program
.Cellulite Free In 28 Days	. Body Contouring System
.Weight Loss Made Easy	. Joe Land's Subliminal Weight Loss Program

3. HAIR LOSS PREVENTION/REGROWTH

Program	Product
.Baldness Fact or Fiction	. New Generation Hair Formula
.Studio 34 Video Magazine	. P-30 Hair Formula
.Discover	. Helsinki Hair Formula
.Hair Care	. Foligen Hair Fitness System

(Table 1 - Continued from previous page)

4. ANTI-AGING/AGE REVERSAL PREPARATIONS

Program	Product
.Can You Look Younger?	. Vikki LaMotta Anti-Aging Products
.Love Your Skin	. Linda Chae Basics
.Youth Secrets of the Stars	. Norwegian Secret of Youth
.Forever Young	. S.T. Go Skin Care System

5. SUCCESS IN LIFE GOALS

Program	Product
.Program Yourself for Success	. Joe Land's Subliminal Success Tapes
.Build a Winning Self Image	. The Mind Power Library
.How to Have a Million Dollar Memory	. Billy Burden's Memory Master
.Success is Not an Accident	. The Mental Bank
.Success Strategies for Women	. Rita Davenport's It's Time For You Program

6. HEALTH PRODUCTS

Program	Product
.Person to Person Magazine	. Nanci Corp.'s Children's Nutritional Supplement and Fitness Program
.Consumer Challenge	. MDR Fitness Tabs
.SoloFlex Exercise	. SoloFlex Exercise Machine
.Herbal Life Seminar	. Herbal Life Products

7. GENERAL CONSUMER PRODUCTS

Program	Product
.Consumer Challenge	. Blublocker Sunglasses
.Making of Santo Gold	. Simulated Gold Jewelry
.Our Secret Creations	. Simulated Precious Gem Jewelry
.Fat-Free Cooking	. Microwave Cooking

STANDARDS FOR ACCEPTABLE ADVERTISING

In broadcasting self-regulation, past attention has been directed toward trade practice guidelines and possible anti-trust violations (e.g. LaBarbera 1980; 1981a; 1983; Stern 1971). Recent studies have mentioned -- almost in passing -- activities of a few large broadcast stations, (e.g. Maddox and Zanot 1984). However, no published information describes the standards applied by individual broadcast stations or cable vehicles. Almost all attention, both in practice and in the literature, discusses activities of the three major broadcast networks, ABC, CBS, and NBC (e.g. Rotzoll and Haefner 1986; Sewell and Jennerjahn 1982; Zanot 1985).

Virginia Knauer, President Reagan's consumer adviser, lamented in a presentation to the National Advertising Division of the Council of Better Business Bureaus in New York that "only 18% (of publishers and broadcasters) specify that they don't accept questionable advertising; less than 2% of the papers refuse to accept ads in the classes of 'questionable therapies' or 'doubtful medical products.' Less than 2% reject ads for unconventional investment or stock promotion schemes" (Anonymous 1985). Knauer called upon the media and self-regulation groups to do more to screen ads for deception and potential consumer harm. While she failed to state the source of her statistics, the notion that industry fails to provide the consumer protection that the government has chosen not to supply was supported by Rotfeld and Parsons' (1987) magazine data. After failing to find any obvious, strong, pattern of formal oversight and control in advertising clearance for 78 magazines, they concluded that, "Although some publications exercise more exacting scrutiny than others, in general, caveat emptor remains the rule." Therefore, in terms of industry advertising standards, the basic media concern does not focus on consumer protection. Rather, it seems to be to avoid offending the audience and to maintain good public relations (e.g. Freeman 1987; Rotfeld and Parsons 1987; Winters 1986).

METHODOLOGY

Interviews & Inquiries

Telephone interviews were conducted with people from legal, sales and corporate offices of all except three of the 14 national advertising-supported cable networks. Not all networks carried infomercials, but the interviews mainly addressed advertising clearance policies in general to be contrasted with any distinctions drawn for program-length commercials. Three networks refused to discuss such "sensitive matters" on the phone; mail questionnaires were sent but not returned.

Final responsibility for the broadcast of infofomercials was quickly found to lie with a variety of individuals. Multiple contacts were needed to even discover just which officers performed various clearance-related jobs. In fact, advertising and program clearance decisions themselves were often diffuse in the organizations; only two cable networks had an individual designated with the office title of "Standards and Practices" as is commonly found at large broadcast stations and the three major networks. Programming departments generally decided which time slots would be allocated for infomercials while sales management, traffic, legal or corporate officers to varying degrees, had input in policy or day-to-day decisions on the acceptability of individual programs. At some networks, responsibility for different types of advertising rested with different corporate officers or departments.

Confidentiality

As noted, clearance personnel for three networks refused to discuss such matters over the phone. In fact, a representative from one of the largest networks refused to give any names of the people responsible for clearance decisions. At two networks, people requested that they first be sent a preliminary letter listing (a) the nature of questions to be asked and (b) the final use of the information. In almost all instances, interviewees insisted on confidentiality, asking that their names or organization not be identified to anyone. Some requested that others in the same organization not be told that they had discussed these matters.

Such paranoia might sound unusual, but it was not unexpected. Organizations might consider clearance activities a source of pride (Zanot and Rotfeld 1983), but they also fear that their activities may be misunderstood by the public. On one hand, they fear sounding petty, interfering with advertisers' rights to provide information, yet they do not want to appear negligent in serving their obligations to their audiences (LaBarbera 1980; 1981b). Furthermore, because they do not have any general trade association's advertising acceptance guidelines -- except for an agreement to not accept hard liquor or cigarettes -- they lack a public relations "buffer" of accepted industry standards.

Issues and Questions

Attention was directed towards four broad research issues, all of which are interrelated with more general concerns for all advertising acceptance decisions: 1) Procedures for selling and scheduling shows; 2) Considerations or concerns for identifying infomercials as paid commercial advertising; 3) Basis for accepting or rejecting programs and types of programs rejected in the past; 4) Existence of viewer complaints or complaints from "affiliates" (the business term for the local cable companies that carry their network) and how such problems are resolved.

RESULTS

Programming Decisions

The basic sales procedures appear to be quite consistent. Time periods are set aside for infomercials which are usually the least desired time periods on the schedule from an advertiser's point of view (e.g. low audience viewership). The sales staff makes arrangements to sell the set time period to a client, checking back at the programming office if the period desired is available.

At this early stage, the sales staff has a degree of power over the acceptance or rejection decisions. However, with a sales staff paid on commission, the primary basis for rejection was seen by managers as being the salesperson's expectation that the program would eventually be rejected by the programming or standards and practices office. While all infomercials generally need the approval of programming or standards and practices departments, many firms have a different set of procedures for clearing infomercials than for clearing regular programs.

The cable networks all have clearly defined target audiences, so there is concern about infomercials offending or turning away audience members networks are trying to attract during the regular program periods. A few representatives expressed a general dislike for infomercials, but seemed to accept them as a necessary evil. These programs filled the program day during periods when they otherwise would not sell time. As audience penetration for each cable network increases, as their financial status strengthens and as their own storehouse of programming improves, the respondents reported that infomercials are being restricted to increasingly minimal blocks of time.

One vice-president said he aimed for less than a single hour of such programs per day, five days a week by January 1988, cutting back from a very heavy schedule of such programs a year ago. He also emphasized, however, that "some of these [infomercial programs] are well produced, extremely informative and popular with the audience. They fit in with our basic programming orientation."

"The Following is a Paid Commercial Program"

With magazines, Rotfeld and Parsons (1987) found a common requirement that all advertising content had to be readily discernible or labeled a such. However, this does not seem to be a strong concern with those cable networks carrying infomercials. In fact, until fairly recently, most of them did not have any disclaimers or labels. Most current network disclaimers that label infomercials as paid commercial advertising are new.

One network first started operations with a Standards and Practices office, but quickly cut it from staff when a lack of revenues forced budget cuts. This network only recently reinstated a system to review advertising and program-length commercials and, only after the insistence of the person in charge of that office, started labeling the infomercials as advertising at the start of every program.

At networks that did not carry disclaimers, some represenatives interviewed did not sound pleased with the situation. A programming officer at one network said the idea had been discussed under the heading of "Maybe we should do this . . ." but nothing concrete has been decided. Management-level people at two different networks said, "That's a good question. Maybe we should." To them, it was a novel idea which they had not considered.

Only one network executive replied that advertising labels had been discussed and seriously considered but they had concluded that they did not understand the reason for it; "Why chase the audience away?" he queried, "Some of these programs are very entertaining." Those who did carry notes identifying the programs as advertising referred to them as "disclaimers," saying they inform the audience that they are not airing network shows. One person, bothered by the network's original decision to not carry ad-labels, said that it was not in keeping with other as-aspects of the network's programming image. The network personnel who most strongly felt the need for infomercial identification tended to have previously worked for either the National Association of Broadcasters or for large broadcast stations.

Rejections and Restrictions

All networks reported having rejected some infomercials in the past, but the reasons and motives differ. Then again, according to the responses in this study, cable networks screen infomercials more closely than other advertising submissions. With regular 30-second spots by large national advertisers, the decision seems easier. Many commericals have already cleared the tough and rigorous process at CBS, NBC and ABC. Therefore, the major networks' screenings procedures are accepted as valid at most (but not all) cable networks. Infomercials, however, have not been previously screened by the major broadcasters.

Cable network personnel tend to screen every infomercial before it is run by examining whether the program is in "good taste," whether or not the claims are credible, and, in the case of medical products, if it might present a danger to users. Still, the primary concern appears to be focused on the fit between the infomercial and other programming which might run on the network. Secondary concerns center around the quality of production and whether or not the style of presentation would offend the target viewing audience.

Unless the infomercial strains the credulity of network pre-screeners, they usually do not ask for substantiation of claims nor do they test the products themselves. They reported having neither the time, facilities nor expertise to test the products. Some networks mentioned programs as deceptive that were noted by other networks as a source of "trivial" complaints. Often, acceptance or rejection was contingent upon the values and perspectives of the person primarily responsible for making clearance decisions. Only two networks reported recently turning down an infomercial because of concerns for the audience due to the unfair use of consumer paranoia. Playing on current fear and public misunderstanding of the nature of AIDS, an infomercial offered a disinfectant that promised to prevent users from contracting the disease.

For the most part, product and advertising acceptability seemed to be based on intuitive judgements made by programmers, sales managers and legal personnel. Taste and entertainment value tended to influence decisions about infomercial acceptance. An additional consideration is a credit check for verification that the program producer can pay for the air time.

Viewer Complaints

The networks receive few complaints about the nature of effectiveness of the product. In fact, respondents described any complaints as "rare." Some network representatives reported that they had never received a viewer complaint. In general, when a viewer takes such action, personnel will reexamine the ad to decide if the complaint is valid. Personnel report that complaints about the products not working as promised are very rare and are seldom upheld under scrutiny.

Existing complaints usually fall under two headings: 1) the program and/or product did not "fit" with the rest of the content of the network; and 2) the product was not delivered as promised. The latter was the most frequently mentioned potential problem area. When the product is not delivered, the station directs the program supplier to "clean it up" and "make good" or else the program will no longer be welcome on the network. "They need us," one representative maintained, "so they know they better make good on customer complaints."

DISCUSSION

While cable network representatives stated that the allocated blocks of time for infomercials are continually being reduced, their perspective of "very few programs" might differ greatly from that of a researcher with a consumer protection orientation. The network personnel might think that the shows are informative or of interest to the viewers, but absent complaints or viewer surveys, their assessments are accurate only to the extent of their powers of audience empathy. It should also be noted that the perspectives herein are those of cable network personnel. Left unanswered is how the consumers actually perceive these programs and products. A more basic question might ask whether infomercials are more credible and powerful sales messages by appearing in a program format.

In discussing the advertising clearance practices at a handful of large-circulation magazines, LaBarbera titled her article on back-of-the book ads as "The Shame of Magazine Advertising" (1981a). But the question remains as to whether or not consumers believe these products' claims. Moreover, the products might only appeal to the same people who mail order the product categories which were criticized by LaBarbera. Some consumers could be seeking these products and might actually want information on these products.

The network personnel apparently realize that infomercials aren't the best way to build a following to their network's programming, but they seem to retain the shows in their schedule out of short-run financial need. The acceptance of *any* infomercial is a statement by the station or network of its limited advertising income and constrained ability to fill the available program space. Cable network representatives maintain that they are restricting the infomercials to smaller and smaller broadcast segments as they are able to get programs and sell advertising time on their own.

REFERENCES

Anonymous (1985), "Media Must Screen Out Fraudulent Advertising," *Marketing News*, 19 (December 6): 11.

Freeman, Laurie (1987), "Jovan's Torrid Spot Steams Up Networks," *Advertising Age*, 58 (October 12): 3, 96.

Hayes, Rader (1987), "Discussion Paper on Consumers and the Mass Media: The Research Agenda for Consumer Communications," in *Proceedings of the 33rd Annual Conference of the American Council on Consumer Interests*, Denver, CO, 201-203.

Kerton, Robert R. and Richard W. Bodell (1987), "The Economic Imperative to Conceal: Why Sellers Hide Information About Defects," in *Proceedings of the 33rd Annual Conference of the American Council on Consumer Interests*, Columbia: MO: 87-93.

LaBarbera, Priscilla A. (1980), "Analyzing and Advancing the State of the Art of Advertising Self-Regulation," *Journal of Advertising*, 9 (4): 27-38.

LaBarbera, Priscilla A. (1981a), "The Antitrust Shadow Over Advertising Self-Regulation," *Current Issues and Research in Advertising*, 5: 57-70.

LaBarbera, Priscilla A. (1981b), "The Shame of Magazine Advertising," *Journal of Advertising*, 10 (1): 31-37.

LaBarbera, Priscilla, A. (1983), "The Diffusion of Trade Assocication Advertising Self-Regulation," *Journal of Marketing*, 47 (Winter): 58-67.

Maddox, Lynda M. and Eric J. Zanot (1984), "Suspension of the NAB Code and Its Effect on Regulation of Advertising," *Journalism Quarterly*, 61 (Spring): 125-130, 156.

Motavelli, J. (1987), "Basic Cable Networks: Breaking the Billion-Dollar Barrier," *Channels 1987 Field Guide to the Electronic Environment*: 72-74.

Preston, Ivan L. and Jef I. Richards (1986), "The Relationship of Miscomprehension to Deceptiveness in FTC Cases," in *Advances in Consumer Research*, Vol. XIII, Richard J. Lutz, Ed., Provo, UT: Association for Consumer Research: 138-142.

Rapping, E. (1987), *The Looking Glass World of Nonfiction TV*, Boston, MA: South End Press.

Rotfeld, Herbert J. (1983), "What is Misleading?" in *Information Processing Research in Advertising*, Richard Jackson Harris, ed., Hillsdale, NJ: Lawrence Erlbaum Assoc.: 169-174.

Rotfeld, Herbert J. and Patrick Parsons (1987), "Magazine Clearance and Consumer Protection -- Preliminary Findings," in *Proceedings of 33rd Annual Conference of the American Council on Consumer Interests*, Denver, CO: 196-200.

Rotzoll, Kim B. and James E. Haefner (1986), *Advertising in Contemporary Society: Perspectives Toward Understanding*, Cincinnati, OH: South-Western Publishing.

Sewell, Michael and Mary Lou Jennerjahn (1982), "Advertising Gatekeeping: Clearance of Network Television Commercials," in *Studies in Journalism and Mass Communications*, review from the Southwest Education Council for Journalism/Mass Communications Conference, October 3-4: 20-26.

Stern, Louis L. (1971), "Consumer Self-Protection Via Self-Regulation," *Journal of Marketing*, 35 (July): 47-53.

Winters, Patricia (1986), "Condom Ads in Print Breakthrough," *Advertising Age*, 57, (September 15): 108.

Zanot, Eric J. (1985), "Unseen But Effective Advertising Regulation: The Clearance Process," *Journal of Advertising*, 14 (4): 44-51, 59,68.

HOW TO SHOP FOR FOOD: A LOOK AT THE ADVICE OFFERED BY CONSUMER EDUCATORS AND ITS BEHAVIORAL SCIENCE SUPPORT

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This study examines the behavioral science support for a set of 20 food buying principles that a content analysis revealed were the most commonly cited in consumer education textbooks in the 1980's. Three types of principles were found which differ in the consumer behaviors they recommend as well as the nature and strength of support they have received in the behavioral science literature.

With the revival of the consumer movement in the United States in the mid-1960's has come a surge of interest in consumer education programs. Although practitioners in the field of consumer affairs have welcomed this development, some scholars have expressed skepticism about the value of these programs. For example, Seitz (1972) has questioned the effectiveness of consumer education as a means for achieving efficient market performance; and Langrehr and Mason (1977) have documented program failure by citing evidence, supported by Hawkins (1977), which finds that "Most research to date has revealed that a course in consumer economics or economics does not significantly change a student's consumer competency."

While the reasons consumer education programs often fail to demonstrate effectiveness are not altogether clear, two researchers (Brown and Dimsdale, 1973) have pointed to the educators' limited scientific knowledge of consumer behavior as a contributing factor. This observation, which has been echoed by Sommer (1982), seems especially apt when one considers that most courses in consumer education are taught by instructors with primary training not in the behavioral sciences but in a field of applied economics, such as consumer economics, family economics or home economics. Authors of textbooks in consumer education have much the same background.

In recent years the impact of behavioral science variables on consumers has been made dramatically evident through the findings of literally thousands of research studies. Since 1970 a dozen new scholarly journals have been established to publish this outpouring of scholarly studies on such influences as perceptual, motivational, and cognitive variables on consumer behavior. Unfortunately, however, as suggested by the Brown and Dimsdale observation, the fields of consumer education and consumer behavior have far too often continued to remain apart. As a result, the recommendations of consumer educators often stress what consumers *should do* without sufficient appreciation of what they *do do* and *can do*. It is this gap between the two disciplinary fields which the current study attempts to bridge.

The study attempts to account for the lack of demonstrated effectiveness of consumer education programs by systematically assessing the behavioral science support for shopping principles or guidelines often found in consumer education courses and materials. The focus of the study is on food buying principles frequently mentioned in recently published consumer education textbooks.

METHOD

The first procedural step was identification of a set of textbooks to serve as the sample of material from which food-buying principles would be extracted. This task was accomplished by drawing upon textbook publishers as well as other sources of information. Forty textbook publishers active in consumer education were each sent a questionnaire along with a letter requesting help in identifying textbooks currently being offered which would be appropriate for the study. Specifically requested were titles of consumer education or consumer economic textbooks used at the college, senior high, and junior high levels, and containing chapters or major sections on food buying for consumers.

Twelve responses to these requests were received. One was particularly helpful in that it contained a list of the titles of the most commonly purchased, consumer education textbooks at the college, senior high, and junior high levels. Two additional sources of titles of commonly used textbooks in consumer and economic education were the American Council on Consumer Interests (the organization's newsletters list new textbooks in the field), and the Michigan Consumer Education Center at Eastern Michigan University (the Center's library contains many new textbooks).

From these various sources 24 textbook candidates for the study were identified. Six titles were then pruned from the list. Three were dropped due to datedness (having copyrights earlier than 1980). Another three were eliminated due to duplicate authors. When there was a choice between textbooks by the same author(s), the book with the more recent copyright was retained for the study. After the six eliminations, the remaining 18 textbooks listed in Table 1 constituted the study sample. They consisted of three college-level books, twelve senior-high-level books, and three junior-high-level books.

As indicated earlier, the focus of the study was the recommended food buying principles contained in the food buying chapters or major sections of

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Table 1. Textbooks Analyzed and Their Educational Levels

Developing Consumer Attitudes by Joseph G. Bonnice and Rosella Bannister (junior high)

Decisions: Making Personal Economic Choices by Judith Staley Brenneke and Mary Lou Hamill (senior high)

The Confident Consumer by Sally R. Campbell (senior high)

Introduction to Business: The Economy and You by Anne Scott Daughtrey, Robert A. Ristau, and Steven A. Eggland (senior high)

Consumers in the Economy by D. Hayden Green (senior high)

Consumer Economics by Judith Herbst, Annie Mueser, and Ruth Handel (junior high)

The American Consumer: Decision Making for Today's Economy by Herbert M. Jelley, Robert O. Herrmann, and David K. Graf (senior high)

The Savvy Consumer by Grady Kimbrell and Susan T. Kern (senior high)

Guide to Good Food by Velda L. Largen (senior high)

Economic Decisions for Consumers by Don R. Leet and Joann Driggers (college)

Consumer Education by Wilmer O. Maedke, Ross E. Lowe, and Charles A. Malouf (senior high)

Economic Issues for Consumers by Roger Leroy Miller (college)

Consumer Action by John S. Morton and Ronald R. Rezny (senior high)

The Food Book by Lynn Newberry and M. Frances Fisher (senior high)

Living Today by Irene Oppenheim (junior high)

Succeeding on Your Own by Jeri Lyn Rieken and Gail House (senior high)

Consumer Challenges and Issues by Bettye B. Swanson (college)

Consumer Economics by Roman F. Warmke and Eugene D. Wyllie (senior high)

chapters in the textbooks. These principles were identified through the use of content analysis as proposed by Holsti (1969). Using two independent raters, the food buying principles were identified with the two raters being in agreement 90% of the time.

In the present study the identification of the principles was systematic in that a principle was identified as explicit if it was stated in the imperative form, such as "read labels". A principle was identified as implicit if a substantial amount of discussion was devoted to the benefits to consumers of practicing the principle, such as open dating, without actually stating "use open dating". The reliability of the analysis was checked through the use of a second reader. A sample consisting of 61% of the textbooks was used for this reliability study. The results were very encouraging in that a correlation of +.95 was found between the two readers' rank orderings of the principles by frequency of use in the textbooks.

Once the textbooks and principles were identified, the published literature in a variety of fields, but primarily the behavioral sciences, was searched in an effort to determine the strength of the behavioral science support for the food buying principles. Journals and books were consulted from many relevant disciplines including general psychology, consumer psychology, marketing, advertising, retailing, business, nutrition education, and gerontology. Of the total number of sources reviewed, 45% were published in the 1980's, 44% in the 1970's, 9% in the 1960's, and 2% in the 1950's.

RESULTS

Food Buying Objectives

While the focus of the study is the food buying principles advocated in consumer education textbooks, the objectives which these principles are to serve must also be considered. Generally, the textbooks' chapters on food buying opened with a brief discussion of objectives. The most commonly cited objective was spending less money, followed by obtaining good nutrition, and obtaining good quality. All three of these objectives appeared in a majority of the textbooks. Other, less frequently mentioned objectives in the textbook sample were saving time, improving quality of diet, making intelligent choices, avoiding unnecessary purchases, avoiding waste, meeting one's responsibility as a consumer, obtaining good information, gaining enjoyment, saving effort, gaining convenience, satisfying needs, and obtaining the most for the money spent. The discussions of individual principles rarely mentioned objectives explicitly although sometimes they were discussed implicitly.

While objectives did not receive much discussion in the textbooks, their importance should not be overlooked. In particular, if an objective to be served by a particular principle is not perceived as valuable to consumers, many of them may not follow the principle. Research is obviously needed to determine the nature of the behavioral linkages between food buying objectives and principles.

Food Buying Principles

The content analysis of the textbooks identified 110 different principles, implicit and explicit, ranging from the very general to the very specific. To make the scope more manageable and the assessment of the principles more generally applicable, the analysis was restricted to the 20 most fre-

Table 2. Frequency of Occurrence, Explicitly (E) and Implicitly (I), of Food Buying Principles in Selected Junior High, Senior High and College Textbooks

	Junior High N=3			Senior High N=12			College N=3			Grand Total N=18			
Food Buying Principles	E	I	Σ	E	I	Σ	E	I	Σ	E	I	Σ	%
Read labels	1	2	3	3	9	12	0	3	3	4	14	18	100
Use house/generic brands	3	0	3	3	8	11	1	2	3	7	10	17	94
Read nutrition info	1	2	3	0	10	10	0	2	2	1	14	15	83
Use shopping list	3	0	3	10	1	11	0	0	0	13	1	14	78
Use open dating	2	1	3	2	6	8	0	3	3	4	10	14	78
Use unit pricing	1	1	2	3	7	10	0	1	1	4	9	13	72
Plan menus ahead	1	0	1	8	1	9	2	0	2	11	1	12	67
Use ads to plan shopping	3	0	3	6	0	6	2	0	2	11	0	11	61
Use coupons	1	0	1	7	1	8	2	0	2	10	1	11	61
Compare prices	2	0	2	5	2	7	0	1	1	7	3	10	56
Avoid impulse buying	0	1	1	2	5	7	1	1	2	3	7	10	56
Consider time/$/nutrition of convenience foods	0	2	2	2	3	5	1	2	3	3	7	10	56
Use foods in season	1	0	1	6	1	7	1	0	1	8	1	9	50
Do not shop while hungry	1	0	1	3	3	6	2	0	2	6	3	9	50
Buy in large quantity	0	1	1	4	2	6	1	1	2	5	4	9	50
Choose grades/quality based on needs/use	1	0	1	4	3	7	0	1	1	5	4	9	50
Compare different forms	1	1	2	5	1	6	0	0	0	6	2	8	44
Use grades to compare food items	1	0	1	1	4	5	0	2	2	2	6	8	44
Plan menus around specials	1	0	1	4	0	4	1	1	2	6	1	7	39
Figure cost per serving	1	0	1	3	2	5	0	0	0	4	2	6	33

quently mentioned principles. All of the 20 appeared in at least 33% of the textbooks. Table 2 presents the list of principles, and the number of textbooks in which each were found, both implicitly and explicitly, for books at junior high, senior high and college levels.

A look at the table entries reveals that almost all of the principles recommended that consumers engage in "positive behaviors" rather than not engage in "negative behaviors." The exceptions concern the avoidance of impulse buying and shopping while hungry. Also evident from inspection of the table is that the principles are not mutually exclusive. For example, it would be impossible for consumers to follow some of the principles (e.g., use nutrition information, use open dating, or use grades to compare food items) without also following the first listed principle (read labels). A third observation about the list of principles relates to the earlier discussed food buying objectives. Virtually all of the principles are stated in a categorical manner (do this or do that) without consideration given to how well they fit the needs of individual consumers. One conspicuous exception is the 16th listed principle, choose grades/quality based on needs/use.

Also of interest is the distribution of empirical findings across educational levels and degrees of explicitness. Somewhat surprisingly, the average number of principles per book differed little for junior high (12.0), senior high (12.5), and college levels (11.3). As one might expect, however, explicitness of principles was inversely related to educational level with 72 percent of junior high textbook principles being stated explicitly, as compared to 54 percent for senior high textbook principles, and 41 percent for college textbook principles.

What are we to make of these various principles? Before commenting on the particulars of the findings, it should be noted that the literature review revealed that little in the way of programmatic research has been conducted on the food buying principles, either singly or in combination. Thus the research picture which emerges for the principles is fragmentary at best, touching upon limited consumer samples, time periods and product classes. We have tried to cope with this limitation by going beyond directly related research studies to include theoretical work in the behavioral sciences relating to perception, cognition, motivation and other psychological processes.

Turning next to the principles themselves it is useful for analysis purposes to sort them into two classes: pre-store planning activities and in-store shopping activities. The first category includes the following seven principles: use a shopping list, plan menus ahead, use ads to plan shopping, use coupons, avoid impulse buying, do not shop while hungry and plan menus around specials. The remaining thirteen principles can be considered in-store shopping activities.

A common characteristic of the first group is that the principles cited tend to be poorly defined. To illustrate, using a shopping list can mean drawing upon a few mental notes one makes upon leaving one's home for the market or, at the other extreme, it can mean relying upon a carefully prepared written list of products with specifications of brand names as well as sizes. And given the problem of poor definition, it is not surprising to find that many of the planning principles are not well researched. As a result their findings in our literature review draw more upon behavioral science theory and principles than upon empirical studies of food buying behavior.

In general, much more research attention has been devoted to the in-store shopping principles. This may be because more of the tasks underlying these principles are well defined, or because they are easier to research since in-store shopping behavior tends to be more accessible to scholarly study than in-home pre-shopping behavior.

Interestingly, many of the in-store principles appear to fit into one of two behavior classes. The first recommends that consumers focus on an informational dimension and make comparisons among food products on that dimension. Examples are nutritional information, open dating, unit pricing, cost per serving, and food grades. The second class of principles goes a step further to recommend rule-of-thumb purchase guidelines for certain desirable points on selected informational dimensions. Examples here are buy large sizes, use foods in season, and use house and generic brands. Clearly the rule-of-thumb principles are the easier of the two to use, but as our literature review reveals for the buy-large-quantity principle, not always with beneficial results. As studies by Widrick (1979a, 1979b) and Cude and Walker (1984, 1985) have shown, the larger size is not always the more economical with the result sometimes being a quantity surcharge to the consumer.

Turning now to the first-mentioned class of in-store shopping principles focusing on comparisons along selected informational dimensions, we find that these principles may well have attracted more behavioral science research than any other. This circumstance no doubt reflects the influx of new legislative and regulatory initiatives in the 1960s and 1970s relating to such practices as unit pricing, open dating and nutritional labeling. However it also reflects the cognitive revolution which has transformed the field of psychology during this period.

DISCUSSION

For consumer educators to make effective use of the findings of this study they must start with the realization that, from a behavioral science perspective, their task is indeed a formidable one. As we have seen, the list of principles can be viewed as consisting of three types.

The first type, called Planning Principles, deals with planning activities done before the shopper enters the store environment. Little is known about how consumers perform many of these activities and this lacuna in our scholarly knowledge needs to be filled if helpful initiatives in consumer education are to be mounted here.

The remaining two types of principles focus on in-store shopping behavior. The first of these, which we have called Dimensional Comparison Principles, each consists of a recommendation for comparing food products in the store on a particular criterion dimension, such as price per serving, nutritional value, or product freshness. As we have noted, these principles have attracted a great deal of research attention. In general, the findings indicate that at least some consumers can use the principles and realize benefits from doing so. However, we should be quick to add that these principles appear to be difficult to use effectively for some classes of consumers, products and/or store environments.

The second type of in-store buying principle is called Dimensional Points Principles. These are rule-of-thumb guidelines for coping with the complexities of intra-dimensional comparisons. Instead of recommending to consumers that they compare competing food products on a given dimension, these principles urge consumers to pick a point or set of points on the dimension and buy (or consider buying) a product that is positioned there. Some good examples are buy foods in season and buy large package sizes of food products. These principles, while not always yielding the desired result, can be expected to do so more often than not. This circumstance, together with their ease of use, relatively speaking, would appear to make Dimensional Points Principles excellent candidates for inclusion in consumer education textbooks. However, before including such principles (either existing ones or new ones), consumer educators should seek "cost-benefit" assurance that 1) the selected points are easy to identify by many (if not most) consumers, and 2) purchase of products characterized by the selected points will, on the average, yield benefits to consumers in relation to their food buying objectives.

To sum up, three types of food-buying principles were identified by the content analysis. Of the three we know the least about the Planning Principles and the most about the Dimensional Comparison Principles. And what we have learned about the latter leads us to believe that many consumers are likely to find them to be too imposing to put into practice, thus suggesting Dimensional Points Principles as a more realistic in-store alternative.

REFERENCES

Brown, S. & Dimsdale, P., Jr. (1973). Consumer information: Toward an approach for effective knowledge dissemination. The Journal of Consumer Affairs, 7, 55-60.

Cude, B. & Walker, R. (1984). Quantity surcharges: Are they important in choosing a shopping strategy? Journal of Consumer Affairs, 18, 287-295.

Cude, B. & Walker, R. (1985). Unit pricing and alternatives: Developing an individualized shopping strategy. *Journal of Business Education*, *60*, 168-172.

Hawkins, C. (1977). A study of the use of consumer education concepts by high school graduates. *Journal of Consumer Affairs*, *11*, 122-127.

Holsti, O. (1969). *Content analysis for the social sciences and humanities*. Reading, Massachusetts: Addison-Wesley Publishing Co.

Langrehr, F.W. & Mason, J.B. (1971). The development and implementation of the concept of consumer education. *Journal of Consumer Affairs*, *11*, 63-79.

Seitz, W.D. (1972). Consumer education as the means to attain efficient market performance. *Journal of Consumer Affairs*, *6*, 198-208.

Sommer, R. (1982). Defining consumer science: A psychologist's view. In R.W. Stampfl (Ed.), *Consumer science in institutions of higher education*. Proceedings of a national invitational symposium (pp. 101-109). The University of Wisconsin, Madison, Wisconsin.

Widrick, S.M. (1979a). Measurement of incidents of quantity surcharges among selected grocery products. *Journal of Consumer Affairs*, *13*, 99-107.

Widrick, S.M. (1979b). Quantity surcharge: A pricing practice among grocery store items - validation and extension. *Journal of Retailing*, *55*, 47-58.

PATTERNS IN THE USE OF RECOMMENDED FOOD BUYING PRACTICES

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Respondents were grouped with cluster analysis on the basis of similar responses to questions concerning how frequently they used nine food buying practices widely recommended by consumer educators. A typology with five categories was created: (1) Compleat Consumers who used most of the recommended practices frequently, (2) Almost Compleat Consumers who also used most of the recommended practices but typically did not shop in several stores in order to economize, (3) Economy Specialists who utilized chiefly those practices useful in saving money, (4) Planning Specialists who emphasized planning-related practices (e.g., use of a grocery list), and (5) Disinterested consumers who utilized the fewest of the recommended practices.

For decades consumer educators have been recommending practices which promise to reduce consumers' food costs, increase satisfaction and improve dietary quality. A few studies, mostly industry-sponsored, have examined the extent to which particular practices actually are employed. There has, however, been little attention to patterns in the use of recommended practices. For example, do those who make grocery lists also utilize other recommended practices? Are there patterns in the use of recommended practices and what factors shape these patterns? This paper examines patterns in the use of nine recommended consumer food buying practices. The results are useful in understanding patterns in food buying behavior and in assessing the acceptance of recommended practices by households.

SHOPPER TYPOLOGIES

A small group of past studies has focused on broad motivational factors underlying shopping behavior or on factors underlying store preferences or store choice. (Westbrook and Black 1985). The concerns identified in these studies resemble those which might find expression in particular food buying practices. It seems likely that the underlying concerns which motivate store choices or preferences may also motivate the use of particular shopping practices.

Two studies based on interviews concerning food shopping are of particular relevance. The typology created by Williams, Painter and Nicholas (1978) was based on questions about the perceived attributes of the respondent's preferred grocery store. On the basis on cluster analysis they identified four groups: (1) *Apathetic Shoppers* who generally had a negative reaction to their preferred store's characteristics; (2) *Convenience Shoppers* who rated their preferred store high on location and parking, but unfavorably on prices; (3) *Price Shoppers* who perceived theis store's prices favorably, but judged the store inconvenient; (4) *Involved Shoppers* who judged prices, quality, convenience, and store advertising favorably.

Darden and Ashton (1974) developed their typology from respondents' ratings of preferred store attributes. Their study is based on a relatively small sample of middle-class, suburban housewives which may have restricted the range of their results. On the basis of cluster analysis they identified six types: (1) *Apathetic Shoppers* who generally did not express any preferences, although many were concerned about competitive prices and variety of brand offerings; (2) *Demanding Shoppers* who wanted excellence in all areas (cleanliness, friendly personnel, convenient location, brand variety, quality meat cuts) except trading stamps; (3) *Quality Shoppers*, many of whom expressed preferences for quality meat cuts and fresh produce; (4) *Fastidious Shoppers* all of whom were concerned about store cleanliness and who typically also were concerned about quality of meat cuts, fresh produce and brand variety; (5) *Convenient Location Shoppers* who typically required only one attribute--locational convenience; (6) *Stamp Preferrers*, who also typically were concerned about cleanliness, quality meats and fresh produce and friendly personnel; (7) *Stamp Haters* who all preferred no trading stamps and typically were also concerned about competitive prices.

Darden and Ashton's cluster results were heavily influenced by the questions on trading stamps and on the friendliness of store personnel because views on these issues were highly polarized. If these questions are put aside, the Demanding, Quality and Fastidious Shoppers and the Stamp Haters and Stamp-Preferrers are much alike. This leaves the Apathetic Shoppers and the Convenient Location Shoppers as distinctive types along with a combined "Involved Shopper" type. Although concern with competitive prices was widespread, a separate group of Economizing Shoppers did not emerge. This may be a consequence of the question utilized or the middle-class, suburban sample employed.

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A review of the types identified in these two studies and the key variables underlying the results suggests that clustering of food shoppers by buying practices would be influenced by concerns about economizing, price/quality relationships, and locational convenience. Seeking or avoiding stores with trading stamps also would be an important variable if included.

DATA AND ANALYSIS

The data on the use of nine consumer food buying practices were collected in telephone interviews with 458 respondents in the coterminous 48 states. The interviews were with the major food preparer in the household, who also did all or some of the household food shopping. Interviewing was done in June and July, 1985, with an estimated response rate of 47.9 percent. As often occurs, households in the lowest income category (under $15,000), non-whites and one-person households were underrepresented.

The nine practices under consideration deal with the gathering of product information, use of comparison shopping and the planning of menus and food shopping. The nine practices are described in Table 1. They were selected to represent food buying practices which are widely recommended. A recent study by Friedman and Rees (1988, forthcoming) confirms the appropriateness of the practices chosen. Respondents were asked to indicate how frequently they engaged in each practice. The scoring points were 1 (seldom or never), 2 (sometimes), 3 (frequently).

The data were analyzed using the SPSS-X cluster analysis program employing Ward's method (Norusis 1985). Cluster methods combine observations with similar characteristics. The result, in this case, is to create groups of respondents which are relatively homogeneous in terms of the frequency with which they employed particular recommended practices. After examining the cluster results, the five cluster solution appeared to be the most useful way of organizing the data.

RESULTS

The five cluster categories displayed distinctly different behaviors on the nine practices. The mean score for each of the clusters are reported in Table 1. The clusters

TABLE 1. Mean Scores of the Five Cluster Categories on the Nine Clustering Variables

	1	2	3	4	5
	Compleat Consumers	Almost Compleat Consumers	Economy Specialists	Planning Specialists	Disinterested
	n = 90	n = 148	n = 125	n = 50	n = 43
Check nutrition and ingredient labels	2.54	2.44	1.72	2.10	1.44
Look for new ideas about better food buys	2.53	2.46	2.15	1.62	1.44
Read food ads	2.79	2.49	2.43	1.08	1.30
Go to several stores to get best grocery values	2.83	1.25	1.94	1.60	1.12
Look for bargains and specials at grocery store	2.88	2.68	2.81	2.28	1.77
Check prices of different package sizes to get best buy	2.90	2.68	2.85	2.48	1.44
Check menus for nutritional balance	2.58	2.56	1.17	1.74	1.16
Plan menus before going grocery shopping	2.27	2.30	1.46	2.60	1.09
Make a shopping list before shopping	2.67	2.81	2.24	2.84	1.84

Scoring: 3 = Frequently, 2 = Sometimes, 1 = Seldom or Never were given names to highlight their particular practices and to facilitate discussion.

Compleat Consumers

The Compleat Consumers (20% of respondents) were actively involved in using all nine of the recommended practices. Their name was chosen (with apologies to Isaac Walton) to indicate their all-round involvement in the food buying process. Those in the category were active product information seekers, active comparison shoppers and active menu and shopping planners.

Almost Compleat Consumers

The Almost Compleat Consumers (32% of respondents) also were highly involved in using all but one of the nine recommended practices. The chief difference was lower scores on shopping several stores to get the best values. The category also had lower scores on reading food ads. This perhaps can be explained by recognizing that reading food ads is less useful if one only shops in one store. On the other variables, mean scores for the category were similar to those of the Compleat Consumers and, in two instances, exceeded them.

Economy Specialists

The Economy Specialists (25% of respondents) scored high only on practices likely to produce dollar savings in purchasing. These economizing practices included reading food ads, shopping several stores to get the best values, looking for bargains and specials, and checking package sizes to get the best buy. The Economy Specialists' scores were substantially below those of the Compleat Consumers and Almost Compleat Consumers on other variables dealing with product information search and menu and shopping planning.

Planning Specialists

In contrast to the Economy Specialists, the Planning Specialists (11% of respondents) focused chiefly on planning-related practices. Their scores were the highest of the five categories on preparing a shopping list before shopping and on planning menus before shopping. Scores on checking menus for nutrition also were relatively high.

Disinterested Consumers

The Disinterested Consumers (10% of respondents) had, on the average, the lowest scores on the nine recommended practices. The group clearly was not very concerned with any aspect of the food buying process.

PERSONAL AND HOUSEHOLD CHARACTERISTICS

Personal characteristics of the respondents and household characteristics were examined for insights into factors underlying the behavior of the five cluster categories. The independence of personal characteristics from category classifications was tested using Chi-square analysis.

The Compleat Consumers had the highest percentage of female respondents. The category contained many husband and wife households with children present. It contained the highest percent of married couples and two or more person households. More than half the households had children under age 20 present. The group contained the highest proportion of respondents age 65 or more and the lowest proportion of young respondents. The category also had less formal education, on average, than the others. About two-thirds had a twelfth grade education or less. The category's ability to engage in a full range of time-consuming activities may perhaps be due in part to relatively lower proportion of respondents employed outside the home.

The Almost Compleat Consumers were similar in many ways. The group contained somewhat fewer older respondents and more young ones. Major differences between the two categories were the higher proportion of the Almost Compleat Consumer respondents employed outside the home and the higher level of formal education. The higher percentage employed may explain the lower incidence of shopping several stores by this category.

The Economy Specialists category contained a relatively high proportion of one-person households. The group had the lowest level of formal education of the five categories. The Planning Specialists had relatively high levels of formal education. The category also had the highest proportion of respondents employed outside the home. The high level of employment outside the home may explain the low use of some of the practices which involve substantial time inputs by this category. Those in the Disinterested Category showed several differences. The group contained the highest percentage of one-person households and the lowest percentage of married couples. It also included the most male respondents and the highest percentage of young adult respondents, age 17-29.

The distributions of many of the personal and household characteristics variables did not differ significantly among the clusters. The response patterns, however, seemed consistent with what might be expected.

RELATED BEHAVIORS

In addition to the nine questions concerning use of particular food buying practices, the respondents were asked a number of other questions about their involvement with food and nutrition, the effect of financial constraints on their food buying and the effects of time and physical energy constraints on food preparation. Responses on these variables provide additional insights into the behavioral patterns which have been identified. The percentage giving particular responses is reported in Table 2.

The Compleat Consumers and Almost Compleat Consumers clearly are the most interested in food and nutrition. A substantial majority of these two groups reported that they "really enjoy" talking about food and recipes, and cooking and preparing meals. While the two groups were somewhat less enthusiastic about meal planning and grocery shopping, they more often reported enjoying these two activities than did respondents in the other cluster categories. Substantial percentages of the two groups also indicated that they were more concerned about their food choices than formerly. Sizable proportions rated their knowledge of nutrition as relatively high, saying they knew "quite a bit" or "a lot."

The Economy Specialists indicated lower levels of enjoyment of the meal planning, food shopping and preparation process. Somewhat fewer indicated they were more concerned about their food choices than formerly and they indicated substantially lower levels of nutritional knowledge. The responses of the Planning Specialists and Disinterested indicated the lowest levels of involvement with food and nutrition. Overall, it appears that higher levels of involvement with the food buying process were associated with higher levels of enjoyment of the process, higher levels of concern with food and higher levels of nutritional knowledge.

An effort was made to assess whether the differing patterns of behavior identified were associated with a sense of financial constraint. The results were mixed. Responses to a question about whether diets would be improved if more money were available were not linked to category classifications. Responses to another more specific question on financial constraint were not, however, distributed independently. The percentages who said they frequently or sometimes cut back on fresh produce because of its cost did differ significantly among the five categories. The Planning Specialists and Disinterested less frequently indicated that they made such cut-backs. This result may, in part, be due to the less frequent use of fresh vegetables by the Disinterested.

Another set of questions can be used to

TABLE 2. Underlying Variables

	1	2	3	4	5	
	Compleat Consumers	Almost Compleat Consumers	Economy Specialists	Planning Specialists	Disinterested	χ^2
	n = 90	n = 148	n = 125	n = 50	n = 43	
			PERCENT			
Really enjoy talking about food and recipes	60.0	56.1	39.2	26.0	25.6	30.75^{**} (4 d.f.)
Really enjoy meal planning	46.7	41.2	28.8	18.0	14.0	25.85^{**} (4 d.f.)
Really enjoy grocery shopping	36.0	29.1	30.4	12.0	14.3	13.59^{**} (4 d.f.)
Really enjoy cooking and preparing meals	65.6	62.2	47.2	46.0	39.5	15.97^{**} (4 d.f.)
Definitely more concerned than formerly about food choices	76.7	81.1	56.8	56.0	51.2	30.85^{**} (4 d.f.)
Rate nutritional knowledge as "quite a bit" or "a lot"	56.6	60.2	31.2	46.0	14.0	44.86^{**} (4 d.f.)
Diet definitely would be better if more money was available for food	66.7	74.3	68.0	70.0	69.8	2.03 (4 d.f.)
Sometimes or frequently cut back on fresh produce because of its cost	32.3	24.3	36.8	20.0	18.6	9.98^{*} (4 d.f.)
Frequently fix quick meals because of feeling rushed for time	25.6	29.7	36.0	42.0	41.9	6.82 (4 d.f.)
Frequently feel rushed for time when fixing meals	27.8	41.9	39.2	38.0	37.2	5.01 (4 d.f.)
Frequently fix easy to prepare meals to save bother	18.9	37.8	37.6	44.0	44.2	14.46^{**} (4 d.f.)

provide insights into the effects of time and physical energy constraints. The responses to the two questions which focussed specifically on time pressures on meal preparation were distributed independently of category classifications. The Almost Compleat Consumers, Economy Specialists, the Planning Specialists and the Disinterested did, however, indicate time pressures more frequently than did the Compleat Consumers. The Chi-square test was not significant, however. Responses to a question about the use of meals which are easy to fix as a way to reduce "bother" was used as a measure of physical energy constraints. The responses were not independent of the cluster classifications. The response was most common among the Planning Specialists and the Disinterested. It also was widespread among the Almost Compleat Consumers and the Economy Specialists.

USE OF INFORMATION SOURCES

The five categories identified clearly have different informational interests. The Compleat and Almost Compleat Consumers have a wide range of informational wants. The Economy and Planning Specialists, in turn, have a more narrow set of wants on which they put priority. Relatively fewer of the Disinterested seem to have any priority informational requirements.

In order to assess the usefulness of different information delivery methods, the respondents were asked about the frequency of their use of six different sources of information on food products, food buying and nutrition. Responses for five of the six sources were not independent of the cluster classifications (Table 3). There were sharp differences in the use of (1) pamphlets distributed through grocery stores, (2) magazine articles about recipes and food products, (3) articles in the newspaper food pages, (4) television programs on food and cooking and (5) other individuals such as friends and family. Use of advice from health professionals (e.g. physicians, nurses, nutritionists, etc.) did not, however, differ among the five categories.

The Compleat Consumers clearly are the most easily reached group, either through the print media or television. The Almost Compleat Consumers also were relatively easily reached through the food pages, and magazine articles. The Economy Specialists were somewhat less frequent users of the food pages and magazine articles. The Planning Specialists were less frequent media users, perhaps a reflection of the time and physical energy constraints on the group. There also were sharp differences among the

TABLE 3. Usage of Information Sources

	1	2	3	4	5	
	Compleat Consumers	Almost Compleat Consumers	Economy Specialists	Planning Specialists	Disinterested	X^2
	n = 90	n = 148	n = 125	n = 50	n = 43	
			PERCENT			
Frequently pick up pamphlets at grocery store	51.1	34.5	24.8	18.0	4.7	38.30^{**} (4 d.f.)
Frequently read magazine articles about recipes and food products	70.0	64.9	48.8	28.0	20.9	50.01^{**} (4 d.f.)
Frequently read articles in food pages of newspaper	66.7	56.8	44.0	24.0	16.3	46.79^{**} (4 d.f.)
Frequently watch TV programs on food and cooking	28.9	14.2	16.0	8.0	7.0	16.27^{**} (4 d.f.)
Frequently ask others about new food products and recipes	44.4	27.7	23.2	20.0	9.3	22.81^{**} (4 d.f.)
Ask advice from health professionals	41.4	31.7	42.6	27.1	35.0	6.17 (4 d.f.)
Frequently tell others about new food products and recipes	48.9	37.8	32.0	20.0	18.6	18.74^{**} (4 d.f.)
Frequently tell others to eat something that is good for them	66.7	60.8	43.2	38.0	34.9	25.21^{**} (4 d.f.)

cluster categories in the use of others as a source of information about food products and recipes. Although there were differences in obtaining advice from health professionals (physicians, nurses, nutritionists, etc.), the differences were not statistically significant.

DISCUSSION

While results of this study have some similarity to those of shopping typology studies they have certain distinctive features. The identification of the Planning Specialist category pinpoints a particular shopping concern not considered in the earlier studies. The linkage of this concern to time pressures and physical energy constraints provides insight into its origins.

The differentiation of the Almost Compleat Consumers from the Compleat Consumers also is of interest. This distinction is based on whether or not respondents shopped in several stores to get the best values and clearly is similar to the locational convenience dimension identified in past shopping typology studies (Darden and Ashton 1974; Williams, Painter and Nicholas 1978).

The results also bear many similarities to Sproles' and Kendall's (1986) profile of consumer decision-making styles. Some of the differences arise out of Sproles' and Kendall's focus on clothing shopping. Their identification of an impulsive/planful factor is of particular interest because of its relationship to the questions which distinguished the Planning Specialists in this study.

CONCLUSIONS

The responses to this study indicate that a substantial portion of the consumer public is not employing the basic practices consumer educators have recommended. The reasons are a lack of interest coupled with time and physical energy constraints. Efforts to reach these groups will be hampered by these same factors.

Overall, the results remind us that the audience for consumer information and education is a diverse one. Fortunately, analyses such as the one above can help to identify segments within the public with particular interests and concerns. With such information, consumer educators can both identify group needs for program development and also can identify group interests which can be used in gaining initial attention before leading into a more comprehensive educational program.

REFERENCES

Darden, William R. and Dub Ashton (1974), "Psychographic Profiles of Patronage Preference Groups," Journal of Retailing, 50(No. 4; Winter): 99-112.

Friedman, Monroe and Jennifer Rees (1988, forthcoming), "A Behavioral Science Assessment of Selected Principles of Consumer Education," Proceedings of 34th Annual Conference, Chicago, IL, Columbia, MO: American Council on Consumer Interests.

Norusis, Marija J. (1985), SPSS-X Advanced Statistics Guide, New York: McGraw-Hill.

Sproles, George B. and Elizabeth L. Kendall (1986), "A Methodology for Profiling Consumers' Decision-Making Styles," Journal of Consumer Affairs, 20(No. 2; Winter):267-279.

Vredenburg, Harvey L. and H. Howard Frisinger (1965), "The Value of Trading Stamps as Measured by Retail Prices," Journal of Retailing, 41(No. 3, Fall):28-32.

Westbrook, Robert A. and William C. Black (1985), "A Motivation-Based Shopper Typology," Journal of Retailing, 61 (No. 1; Spring):78-103.

Williams, Robert H., John J. Painter and Herbert R. Nicholas (1978), "A Policy-Oriented Typology of Grocery Shoppers," Journal of Retailing, 54(No. 1, Spring):27-42.

CONSUMER BEHAVIOR/CONSUMER INFORMATION

Discussion

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All three of these papers raise important questions concerning how consumers acquire and use information. They also raise the question of the effectiveness of our consumer education process.

In "The Peril of Infomercials" the authors present us with yet another variation of commercial advertising. Advertising is an acceptable method of providing information to consumers about a particular product. What is controversial about informercials is the presentation format of the message: the commercial/advertising aspect is obfuscated by the program/entertainment aspect. I found it quite interesting that cable television officials are less than enthusiastic about this type of programming. It is the authors' opinion that infomercials are not going to die a natural death. Comments from the cable network officials imply that as the cable networks develop their own programs, or are able to purchase programs, the scheduling of infomercials will decline. If this is true, there might be an inclination not to be terribly concerned about them. Does the fact that the number of informercials on the cable network is decreasing lessen the potential for deception? And what is the deception?

What we have here is an ethical issue. Is it ethical for journalists, experts in various fields, etc. to be paid to discuss a topic of immediate relevance to the show's sponsor by the show's sponsor? Is there deception if the content and substance of the program is objective, not a sales pitch for the sponsor's product? Is this a type of deceptive advertising? Where are the boundaries? When is a program a commercial message paid for by a particular company and when is it an open-forum discussion of a topic? If the content of the program is clearly biased toward the sponsor's own product, or the sponsor's product is the only product considered, the potential for deception is more apparent. What about entertainment programs? Legislation is being considered by Congress to eliminate the alleged program-length toy commercials masquerading as cartoons. Professor Rotfield says that these are not informercials. But if the program definition in the legislation is sufficiently broad, some of the more entertainment-oriented infomercials might be eliminated.

Since the authors titled their paper "The Perils of Infomercials" I would like to know more about what should be done to avoid the perils, or to eliminate the perils. If the infomercial is a media product whose time has come, and we will be seeing more of these, what can/should be done, and by whom, to reduce deception? Should this be FCC as a programming issue? Or FTC as an advertising issue? Or local government as a cable regulation issue?

The "Patterns in the Use of Recommended Consumer Practices" and "A Behavioral Science Assessment of Selected Principles of Consumer Education" complement each other. In the one case we have the investigators looking for empirical evidence that certain recommended marketplace behaviors are of practical use to consumers. In the other case we have investigators finding that some people really utilize those recommended marketplace behaviors.

After reading the opening paragraphs of the Friedman & Rees paper I was quite depressed. If consumer education has been shown to be less than effective in increasing consumer competency, and we all have the wrong training to be teaching it, what does this mean for consumer educators? Have we been wasting our time, and our students' time, all these years? Fortunately, the authors verified, that in some cases, some of these principles we teach are effective. My complements to the authors in tackling the question. The larger question, for me, is the ability to generalize the food buying principles to general shopping strategies. "Planning," "dimensional comparisons," and "dimensional points" are principles which can be applied to any purchase decision. Consumers may develop, through the application of these principles and their own experiences, their "rules-of-thumb" to use in many buying situations. Has this aspect been assessed? Is it possible to assess it? I hope that the promised subsequent investigations will provide some guidance for improving our effectiveness as educators and how best to approach these principles for the broadest possible application.

In "Patterns of Practices" we find that people do use these recommended behaviors to some degree. Because of the questions raised by the Friedman and Rees paper, I would like to know more about why those who do not use a particular practice, choose not to use it. If a practice is not being utilized out of ignorance concerning its utility, consumer education may be effective. If a person chooses not to utilize a practice for whatever reason, could additional education have much impact?

The proportion of total income spent on food has been declining. It might not, therefore, be unreasonable to suspect that time intensive strategies lose appeal among those with higher incomes and/or busy schedules. Do people apply the broad concepts utilized in food shopping to other products? Do the "Compleat Consumers" remain "Compleat Consumers" if asked about another expenditure category? Are "Disinteresteds" always disinterested no matter what the expenditure category?

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The question that these two papers seem to be asking is what is useful information to consumers? Which practices do people put to use? If certain practices/principles are not followed, is it out of ignorance or is it another reason (economy specialists focus on reducing food costs; planning specialists focus on reducing time/energy)?

CONSUMER RESPONSE TO TELECOMMUNICATIONS DEREGULATION: THE EQUAL ACCESS DECISION

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This paper examines consumer response to equal access -- the choice of a primary long-distance carrier. A model is developed which suggests that those consumers who seek information to aid in decision-making may acquire it either through search or experience. The paper reports results of a survey of consumers who recently made the equal access decision. Nearly two-thirds of the sample compared the alternatives before making a choice; 70 percent acquired information on cost and convenience, two of the characteristics ranked highest in importance. The data also provide some tentative support for the conclusion that experience may have been used rather than search by portions of the sample. A multi-faceted consumer education approach is recommended to help consumers to respond more effectively to telecommunications decisions.

INTRODUCTION

The court-ordered divestiture of AT&T, effective January 1, 1984, has affected all of America's millions of phone users. Many consumers have been asked to make numerous decisions about their telephone services and equipment. The vast majority have been unprepared to respond with informed judgments.

One major decision that over 50 million Americans (Wall Street Journal 1986) have had to make is the "equal access" decision. Equal access -- the choice of which long-distance carrier is reached by using "1 plus" dialing -- is probably the most publicized result of divestiture. Its intent is to put AT&T's competitors on more equal footing in their quest for customer patronage. (See Enis and Sullivan (1985) for a detailed analysis of the divestiture agreement.)

While consumers may benefit from a greater number of choices, many people are confused about the impact of deregulation. Polls in 1983 (Time 1983) showed that only one in five people knew what was happening in the telecommunications industry. In Hyman's (1985) survey of 500 Pennsylvania consumers, over 50 percent didn't know or hadn't thought about the causes of the breakup. Fewer than 50 percent could even name the companies providing their local and long-distance service.

Moreover, preliminary results from areas where equal access has already been implemented also indicate consumer confusion. When equal access reaches an area, consumers receive two opportunities to select a primary long-distance carrier. Nationwide, as many as 30 percent of consumers in the first exchanges to convert to equal access did not make a choice on either of the two ballots (Wall Street Journal 1985).[2]

The equal access decision provides an unprecedented opportunity to examine consumer response to deregulation of an industry. The decision is unique in that it is one for which most consumers have little or no background information or experience from which to draw. It was therefore the purpose of this research to:

1) assess the extent of consumers' search for information in the equal access decision,
2) identify the types of information acquired in pre-purchase search and the perceived inadequacies of the information available, and
3) examine the relationship between the intensity of search for information and selected characteristics, including socioeconomic variables, the extent of search in other purchase decisions, and selected characteristics of the equal access decision.

CONCEPTUAL BACKGROUND

A vast body of literature examines consumers' pre-purchase search for information. Much of this work is based on Stigler's (1961) classic article, "The Economics of Information." Stigler postulated that consumers determine the optimal amount of search for information about the price of a good by equating the savings expected to result from a given search to the expected costs. Stigler suggested that, to maximize the expected utility, a person will search until the expected cost of an additional attempt to acquire information exceeds the expected return.

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[2] Consumers have around 30 days in which to return the first ballot. If they do not, they receive a second letter and have ten days in which to respond. Those failing to return either ballot are assigned to carriers. The assignments are based on the share of the market the competing carriers received from the selections of consumers who did make a choice. For example, if 90 percent of those returning ballots chose Company A, then 90 percent of those who did not return the ballot would be assigned to Company A.

In the case of long-distance telephone services, the expected savings are primarily in the form of lower rates. Compared to AT&T, the OCC's (other common carriers) held a major price advantage prior to divestiture. However, AT&T's long-distance rates have decreased by 30 percent since divestiture (Nation's Business 1987) and costs for the OCC's have increased. The OCC's now pay the same price as AT&T for connections to the networks of local phone companies; before the breakup, they enjoyed a 55 percent discount over AT&T. Therefore, the potential savings from choosing an OCC rather than AT&T may currently be as low as five to twelve percent (Consumer Reports 1986; Business Week 1987; Wall Street Journal 1986).[3] However, some consumers still believe that vast dollar savings are likely with an OCC. If so, they may overestimate the benefits of search.

The costs of search for information about long-distance telephone services are likely to be perceived as high by the average consumer. Two unique aspects of the equal access decision complicate the estimation of search costs. First, unlike many purchase decisions made by adults, in the equal access decision the average consumer cannot draw upon a bank of product information built from past experience. Bloch, et al. (1986) has suggested that consumers build such information banks by engaging in "ongoing search" -- search activities that are independent of specific purchase needs or decisions. Yet, prior to 1984, few consumers anticipated that a choice of long-distance carriers was likely. Thus, there was no incentive for ongoing search. When confronted with the equal access decision, most consumers must not only make choices about the optimal amount of information to acquire but must also identify sources of that information.

The equal access decision is also unique in that consumers know at the outset that if they do not make a choice, they will be assigned to a long-distance company. While all may not understand the assignment procedure, at least some consumers faced with this decision might choose to forego the search costs and allow others to make the choice for them.

Nelson's (1970) concept of an "experience" good may also be relevant in understanding consumer response to the equal access decision. Nelson suggested that, for some goods and services, the search process is inappropriate since the cost of evaluation through search is higher than the cost of learning about the good or service through experience (purchasing and using it). Nelson hypothesized that consumers will determine how much information to purchase through experience by equating the marginal cost to the marginal return. Experience as a substitute for search may be especially valid when the cost of purchase is low and/or assessment of one or more important aspects of quality is subjective. In the equal access decision, both conditions may exist. The marginal cost of acquiring information through experience might well be perceived to be low since consumers are not assessed a charge to start service with an OCC. Thus, the only cost would be the loss of utility incurred if the company chosen had higher rates and/or provided poorer service than the company it replaced. Also, the quality of long-distance service is likely to be defined by several characteristics that are difficult to assess objectively, including voice transmission quality and convenience of use. Due to the sparcity of objective information available, consumers may decide that making subjective assessments through use is the lower-cost option.

These theories suggest four possible consumer responses to the equal access decision. They are:

1) Consumers may view long-distance service as a search good and:
   a) search extensively for information, perceiving the benefits of search to exceed the costs.
   b) search little, perceiving the costs of search to be relatively high and/or the benefits to be relatively low.
2) Consumers may view long-distance service as an experience good and thus seek little pre-purchase information.
3) Consumers may be apathetic and/or lack sufficient knowledge about the market to make rational judgments about the costs and benefits of acquiring information either through search or experience. Therefore, their behavior will be unpredictable and cannot be explained by theory.

A number of hypotheses are possible about the effects of demographic and decision-specific characteristics on assessments of the costs and benefits of search versus experience. However, formulating these hypotheses would require assumptions for which there are no supporting data. Therefore, the research was treated as exploratory.

METHOD

Mailed questionnaires were sent to residents of Champaign and Urbana, Illinois in February 1987. Residents of those two communities, which receive local telephone service from Illinois Bell, made the equal access decision in May 1986. Consumers could choose from among five carriers (three national and two regional companies). Mail and telephone promotion was extensive and the decision received much attention.

Equal access service began in June 1986. Thus, the decision had been made approximately eight months before the survey was mailed. It was therefore hoped that recall about prepurchase search for information would be high. Yet by the time of the survey, consumers had also had some experience with their chosen carriers.

Following pretesting and revisions,

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[3] Some OCC's offer volume discounts which increase their price advantage for consumers whose monthly long-distance telephone bills total $15 or more.

questionnaires were mailed to a random sample of 1000 Champaign and Urbana residents drawn from the local telephone directory. The accompanying letter asked that the survey be completed by the person(s) who took primary responsibility for the household's telephone decisions. Follow-up reminders were mailed two weeks later. Of the 1000 questionaires mailed, 14 were undeliverable. Of the remaining 986, 348 usable surveys were returned for a response rate of 35 percent.

RESULTS

Compared to other Illinois households, the households responding to the survey tended to be smaller and better educated. Two-person households made up nearly one-half of the total (143 or 41.2 percent) with single persons comprising nearly one-fourth (24.5 percent). (See Table 3.) Educational levels among the surveyed households were much above the Illinois median.[4] In over one-third of the responding households, one or more persons had a graduate degree (128 or 37.2 percent). In another 21 percent, at least one person had completed a college or trade school education.

Low-income consumers were underrepresented in the sample and higher-income consumers were overrepresented relative to other Illinois consumers. The households were fairly equally distributed among six income brackets; approximately 18 percent earned less than $10,000 a year and another 18 percent earned over $50,000 a year. (See Table 3.) In over three-fourths of the households (77.6 percent), at least one person was employed full time.

Over four-fifths of the respondents (290 or 83.3 percent) recalled receiving a letter from their local telephone company asking them to choose a long-distance carrier. Of those 290, 260 (90 percent) said that they returned the ballot. Two-thirds chose AT&T as their primary carrier, with one regional (16.7 percent) and one national carrier (12.4 percent) garnering the lion's share of the remainder of the market. Among the 30 consumers who did not return a ballot, 17 gave as the reason the desire to keep the service they were currently using. This response indicates a lack of understanding of the system since consumers who did not vote were not automatically assigned to their current carrier.

A substantial portion of the remainder of the questionnaire focused on consumers' acquisition and use of pre-purchase information. Nearly two-thirds (61.6 percent) of the respondents indicated that they made their decision by "comparing the alternatives and choosing the best one for me." One-fourth (26.4 percent) simply chose a company used in the past without considering the other options. (See Table 1.) AT&T was the company most often used by the majority of consumers before equal access; only 15 percent had previously used an OCC for most of their long-distance calls.

TABLE 1. Decision Strategies and Perceptions of the Equal Access Decision Situation.

Variables	n	Percent
How chose carrier	(284)	
Compared alternatives	175	61.6%
Chose company used in the past	75	26.4
Asked friends/neighbors	20	7.0
Other	8	2.8
Don't know	6	2.1
Information to make decision	(291)	
Too little	144	49.5%
About right	115	39.5
Too much	32	11.0
Quality of information for decision	(285)	
Poor or very poor	137	48.1%
About right	103	36.1
Good or excellent	45	15.8
Time to make decision	(286)	
Too little	25	8.7%
About right	219	76.6
Too long	42	14.7

Approximately one-half of the respondents said there was too little information available to help in choosing a long-distance company and that the quality of existing information was poor or very poor. Three-fourths were, however, satisfied with the amount of time they were given to make their decision. (See Table 1.)

The responses reported above would seem to indicate that consumers viewed the equal access decision as a search decision in which pre-purchase information was desirable but scarce. However, another set of questions in the survey elicited somewhat contradictory responses.

Seven characteristics were identified as potentially relevant in the choice of a long-distance company. Consumers were asked how important each characteristic was in their choice. For six of these characteristics, the respondents were also asked how much information they sought and how much additional information they needed. The seventh characteristic -- past experience with a company -- was replaced by a general topic (how to choose a long-distance carrier) for the information questions.

Responses are reported in Table 2. The majority of the respondents indicated that five of the seven characteristics were "moderately" or "very" important: voice transmission quality (88.0 percent), convenience of use (84.4 percent), good customer service (81.1 percent), low cost (76.7 percent), and stability of the company (71.8 percent). Past experience with a company and the range of services offered were moderately or very important to around 50 percent of those surveyed. The two factors about which consumers indicated they sought the most information were cost and

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[4] Higher than average educational levels were expected since the two cities from which the sample was drawn are home to a major land grant university and a community college.

TABLE 2. Perceived Importance of Selected Characteristics and Amount of Information Sought and Needed.

	Characteristics Relevant to Choice of Long-Distance Company						
	Voice Transmission Quality	Convenience of Use	Good Customer Service	Low Cost	Stable Company	Range of Services	Past Experience W/Company
How important in decision	(n=333)	(n=334)	(n=336)	(n=330)	(n=337)	(n=327)	(n=332)
Not at all	3.0%	1.0%	1.0%	1.5%	5.3%	7.0%	24.4%
Slightly/somewhat	9.0	14.7	17.9	21.8	22.8	41.3	27.1
Moderately/very	88.0	84.4	81.1	76.7	71.8	51.7	48.5
							How to Choose
Information sought	(n=321)	(n=319)	(n=323)	(n=325)	(n=322)	(n=323)	(n=321)
None	44.2%	29.8%	36.5%	28.9%	42.9%	47.1%	48.9%
A little	32.7	35.4	36.2	32.9	32.6	33.7	38.6
A great deal	23.1	34.8	27.2	38.2	24.5	19.2	12.5
Additional information needed	(n=318)	(n=317)	(n=316)	(n=319)	(n=320)	(n=314)	(n=320)
None	47.5%	49.8%	44.6%	39.8%	54.1%	52.9%	53.4%
A little	28.0	24.9	32.0	27.3	28.1	31.5	25.3
A great deal	24.5	25.2	23.4	32.9	17.8	15.6	21.3

convenience of use; 70 percent acquired a "little" or a "great deal" of information on each of these two characteristics. Yet, the proportion of consumers who did not acquire any information was over one-fourth for each of the seven characteristics, and over 40 percent for four of them. Furthermore, for all of the seven characteristics except low cost, over 45 percent of the respondents indicated that they did not need any additional information.

Chi-square analyses were used to identify variables related to the extent of pre-purchase information search. An index to measure search activity was created from responses to questions about the amount of information sought on the seven characteristics identified in Table 2. Extensive search was defined as seeking a little information about at least three of the characteristics and/or a "great deal" of information on at least two. Consumers who acquired no information on any one of the seven characteristics were defined as engaging in "limited" search. The search activities of the remainder of the respondents were defined as "moderate." Nearly one-half of the sample engaged in extensive search; the remainder were equally divided between the limited and moderate search groups.

The extent of pre-purchase search was significantly related to previous experience with an OCC. Households who had previously used an OCC as their primary carrier were more likely to engage in extensive search (58 percent) than households who had not (47 percent). (See Table 3.) The household's satisfaction with its current long-distance service was not significantly related to pre-purchase search.[5] Nor were the demographic characteristics household size, income, education, employment status, or presence of children under 18. However, age was significantly related to the extent of pre-purchase search. Households with persons age 56 or older were significantly less likely to engage in extensive search (29 percent) than were younger households (43 to 58 percent).

Not surprisingly, there was also a significant relationship between the extent of pre-purchase search and the decision strategy chosen; 65 percent of those who said they compared alternatives engaged in a high level of search compared to 31 percent of those who simply chose a company used in the past. An index measuring the amount of information consumers generally seek before making purchase decisions in eight areas was also significantly related.[6] Consumers who described themselves as usually seeking information prior to making other purchase decisions were also more likely to engage in extensive pre-purchase search for long-distance services.

A multinomial discrete-choice logit model was used to examine the relationship between selected demographic and decision-specific characteristics and the extent of search. The model was specified as:

$$P_{ih} = \frac{e^{X_iB_h}}{\sum_{g=1}^{3} e^{X_iB_g}}$$

where P_{ih} is the probability that the i^{th} household will fall in group h, h is one of the three search groups (limited, moderate, extensive), X_i is a vector of characteristics, B_h is a vector of coefficients for the h^{th} group, g is the value representing each search group, and B_g is a vector of coefficients for g = 1, ..., 3.

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[5] Long-distance expenditures may be related. However, response to this question was low.

[6] The eight types of purchase decisions were: clothing, jewelry, personal care items; cameras, stereos, televisions; foods and beverages; sports equipment and toys; autos and automotive equipment; minor appliances; major appliances; and medical services and insurance.

TABLE 3. Pre-purchase Search Activities and Related Variables.

	Level of Search				Chi-Square
Characteristics	Limited (n=91)	Moderate (n=84)	Extensive (n=166)	n	(Significance Level)
Decision strategy				(270)	
Compared alternatives	15%	20%	65%	175	31.99
Chose past company	44	25	31	75	(.000)
Asked friends/neighbors	25	30	45	20	
Company used most before				(341)	
AT&T	30%	23%	47%	284	11.53
Other	9	33	58	57	(.003)
Satisfaction with current service				(340)	
Dissatisfied	32%	15%	52%	44	8.25
Uncertain	21	42	37	38	(.091)
Satisfied	27	24	49	258	
Usual amount of pre-purchase search				(348)	
Limited	42%	33%	25%	69	19.97
Moderate	24	22	53	209	(.001)
Extensive	21	21	57	70	
Household size				(347)	
One	29%	20%	51%	85	5.62
Two	28	28	44	143	(.525)
Three	31	25	44	52	
Four or more	19	22	58	67	
Household income				(317)	
Less than $10,000	19%	40%	40%	57	13.65
$10,000-$19,999	29	25	46	59	(.190)
$20,000-$29,999	24	18	58	62	
$30,000-$39,999	32	18	50	38	
$40,000-$49,999	23	19	58	43	
$50,000 or more	31	26	43	58	
Age of oldest household member				(301)	
18 to 24	20%	37%	43%	51	41.92
25 to 40	13	29	58	113	(.000)
41 to 55	26	26	48	58	
56 and over	53	18	29	79	
Education				(344)	
H.S. diploma or less	47%	13%	40%	30	11.10
Attended college	29	28	43	65	(.090)
College degree	25	17	58	72	
Graduate work/degree	24	28	48	177	
Household employment status				(348)	
No members employed	36%	24%	40%	78	4.24
One or more employed	25	24	51	270	(1.21)
Children age 18 or under in household				(348)	
Yes	24%	19%	57%	91	4.11
No	28	26	45	257	(.128)

The model hypothesized that the probability a household selects the hth search group is a function of selected demographic and decision-specific characteristics. Maximum likelihood estimation of the logit model produces estimates that are consistent, asymptotically efficient, and normally distributed (Garner 1984). Since the analysis was considered exploratory, all of the demographic variables selected for the Chi-square analyses were included in the logit analysis.

The logit analysis examined the probability of a household engaging in moderate or extensive search versus limited search. Estimated coefficients, asymptotic standard errors, and tests of significance are reported in Table 4. The likelihood ratio statistic (39.59) indicated that the explanatory variables selected for the model were significant in explaining the search group probabilities. However, the model did not estimate the observed data very well since the

TABLE 4. Estimated Coefficients of Search Model.

Explanatory Variables (n=273)	Estimated Coefficients	ASE[a]
Previous experience with OCC's	-.464	.327
Usual amount of pre-purchase search	.836*	.198
Household size	-.213	.153
Household income	.088	.085
Age	-.467*	.122
Education	.033	.092
Employment status	.008	.320
Children under age 18	.521	.438

Likelihood Ratio Statistic 39.59 > 15.5073, all parameters ≠ 0

Likelihood Ratio Index .07

[a]Asymptotic standard errors
*Significant at the .01 level

likelihood ratio index was only 0.07.[7]

Age and the degree of pre-purchase search in other buying decisions were the only two statistically significant variables. The negative coefficient for age reinforces the conclusion from the Chi-square analyses that older consumers were less likely to engage in pre-purchase search. The logit analysis also confirms that consumers who usually search for pre-purchase information are likely to do so in long-distance service decisions as well.

DISCUSSION

The model developed earlier in this paper suggested four possible consumer responses to the equal access decision. Briefly, those were:

1) extensive search because benefits are perceived to be high in relation to costs,
2) limited search because costs are perceived to be high in relation to benefits,
3) limited search because long-distance services are viewed as an experience good, and,
4) unpredictable behavior because consumers are apathetic or lack sufficient knowledge to weigh the costs and benefits of search and experience.

Was one of the four reactions more common than the others? Although responses to different sections of the questionnaire are somewhat contradictory, the data do seem to indicate that a rather substantial portion of the sample viewed the equal access decision (or at least some part of it) as a search decision. Two-thirds said that they compared the alternatives and over one-half acquired at least a little information on the five characteristics rated most important in the decision. The fact that nearly one-half stated that they did not need any additional information may in part reflect the generally low opinion of the quality of information available.

There is also some limited support for the notion that consumers view experience rather than search as the more appropriate response to at least some aspects of the decision. Voice transmission quality was a characteristic about which a substantial proportion of consumers (44.2 percent) indicated they acquired no information. Yet this was also the characteristic most frequently rated as moderately or very important to consumers in their decision-making. Since little objective information is available on voice transmission quality, perhaps the data are reflecting consumers' choice of experience rather than search as a means of evaluation. However, if consumers are using experience to acquire information, one would expect that, by the time of the survey, at least some would have become dissatisfied with the service chosen and would have switched. The data do not support that assumption. Only 15 consumers had changed to another primary carrier within the eight months following equal access.[8]

The survey did not directly ask questions to measure consumers' knowledge of the telecommunications market. Therefore, one can only speculate about how much of the observed behavior reflects consumer misunderstanding or ignorance. The responses certainly do not indicate that the sample was apathetic; 85 percent of those who received a ballot returned it and 62 percent said that they compared alternatives before choosing. However, it is likely that "involved" consumers are overrepresented in the sample. Unfortunately no statistics are available on the percent of consumers within the two exchanges who returned ballots. Thus, comparison of the sample to the population is not possible.

CONCLUSIONS AND RECOMMENDATION FOR CONSUMER EDUCATORS

The data provide an interesting portrait of consumer reaction to the equal access decision. Consumers who tend to be "information seekers" (Thorelli and Engledow 1980) in other purchase decisions also appear likely to seek pre-purchase information in the equal access decision. However, search seems to be particularly frustrating as the amount and quality of information available is perceived to be low.

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[7] Likelihood ratio indices of 0.2 to 0.4 are considered extremely good fits (Garner 1984).

[8] It is also possible that consumers who are dissatisfied with a primary carrier will simply use other companies as secondary carriers. (To use a company as a secondary carrier requires dialing a five-digit access code.) Just over one-fifth (22.5 percent) of the respondents reported using one or more secondary carriers.

While consumers may consider experience as an alternative to search for at least part of the information needed, lack of knowledge about how the market works may make it difficult to use different carriers. Some consumers may not know how to change their primary carrier or how to use a secondary carrier.

The limitations of the study do somewhat restrict its applicability. A larger sample and one more representative of telephone consumers is needed in future work. The relatively high educational level of this sample poses a real danger that search-oriented consumers were overrepresented. Also, this research specifically addressed consumer response to the equal access decision. Further study is needed to examine responses to decisions about local services and telephone equipment.

The data do lend at least tentative support to the conclusion that educational programs in this area need a multi-faceted approach. Consumers may need assistance in one or more of the following areas:

1) understanding the organization of the telecommunications market and how it functions,
2) acquiring specific, objective information about one or more of the characteristics of long-distance services,
3) interpreting available information on the chosen decision criteria, and
4) finding answers to procedural or "how to" questions.

Experiences in Illinois indicate that educational programs can have a positive effect on consumer behavior. During the past three years, one program objective of the University of Illinois Cooperative Extension Service has been to help consumers to respond effectively to telecommunications deregulation.[9] The equal access decision has been one thrust of the program. Several approaches have been used by the state consumer economics specialist as well as county faculty to assist consumers in the four areas described above. Media campaigns, newsletters, workshops, open forums involving representatives from one or more local telephone companies, and fact sheets have been used to reach over 100,000 Illinois consumers. During 1986 alone, over 2,000 consumers participated in some type of workshop or public meeting. Consumer evaluations of the programs, completed one month after participation, indicated that behavior changes did occur. Over one-half of those consumers attending a workshop looked for more information on decisions about telephone services after the program.

The Illinois project suggests that educators can play an important role in helping consumers to respond to the decision opportunities presented by deregulation. While consumers may long for the days when telephones were black, sheets were white, and fewer decisions needed to be made, reregulation of the telephone industry is doubtful. Educators can help consumers to make the transition from viewing telephone service as an arena in which they are only passive participants to one in which they are active, effective decision makers.

REFERENCES

Bloch, P.H., Sherrell, D.L., and Ridgway, N.M. (1986). Consumer search: An extended framework. Journal of Consumer Research, (June), 119-126.

Business Week. (1987). The long-distance wars get hotter. (March 23), 150-156.

Consumer Reports. (1986). Long-distance phoning: Time to get fickle. (May), 302-304.

Enis, B.M. and Sullivan, E.T. (1985). The AT&T settlement: Legal summary, economic analysis, and marketing implications. Journal of Marketing, (Winter), 127-136.

Garner, T. (1984). Multinomial logit analysis. In Goebel, K. (ed.), Proceedings of the American Council on Consumer Interests. Columbia, Mo.: ACCI, 151-153.

Hyman, D. (1985). On the prerequisites for prosuming: Consumers and the deregulation of telecommunications. In D. Hyman (ed.), Coproduction, Prosuming and Appropriate Technology for the Nonprofit Sector. New Orleans: Association of Voluntary Scholars, 1-16.

Nation's Business. (1987). New directions in telecommunications. (April), 38-40.

Nelson, P. (1970). Information and consumer behavior. Journal of Political Economy, (March-April), 311-329.

Stigler, G.J. (1961). The economics of information. Journal of Political Economy, (June), 213-225.

Thorelli, H.B. and Engledow, J.L. (1980). Information seekers and information systems: A policy perspective. Journal of Marketing, (Spring), 9-24.

Time. (1983). Click! Ma is ringing off. (November 21), 60-64+.

Wall Street Journal. (1986). ...But phone-marketing war continues with emphasis on quality, service. (August 22), 17.

Wall Street Journal. (1985). Long-distance phone service may be missing the mark on ads. (November 14), 33.

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[9] The sample communities had not participated in the educational program at the time of the survey.

CONSUMER REPRESENTATION AND LOCAL TELEPHONE RATES

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A number of methods have been advocated to improve the quality of consumer representation before state utility commissions. Past research has primarily focused on the impact of the method of commissioner selection (appointed versus elected) on electric rates. This research attempts to determine the impact of several political and regulatory factors on flat-rate, residential telephone prices. Two regression equations are estimated: a full model specification with supply, demand, and political variables; and a restricted model specification with political variables omitted. The type of consumer representation directly provided by state government and the length of public utility commissioners' terms were significantly related to residential telephone rates whereas method of commissioner selection had no relationship to rates.

CONSUMER REPRESENTATION AND LOCAL TELEPHONE RATES

Consumers have a substantial stake in the representation they receive when state utility commissions make decisions regarding the rates charged for electric, natural gas, and telephone service. With the impetus provided by rising energy prices during the 1970s, a number of approaches were initiated to improve the quality of consumer representation at utility hearings. More recently, rising prices for local telephone service have set off another round of attempts to ensure that consumer input into regulatory decisions is robust.

One approach to improving consumer representation is to shift from appointment (typically by governors) to direct election of state utility commissioners. Presently commissioners are elected by the public in eleven states and by the state legislature in two states. Efforts are underway in five additional states to choose commissioners through the ballot box (Chandy 1986; Citizen's Utility Board 1987).

The establishment of citizens' utility boards (CUBs) constitutes a second method of increasing consumer input in regulatory proceedings. CUBs are private, nonprofit organizations whose function is to represent consumers before state utility commissions. CUBs are typically established when a state legislature grants them the right to include solicitations as part of utility bills. Ratepayers are asked to pay a small annual membership fee (typically \$3-\$5). The first CUB was established in Wisconsin in 1979. CUBs are also in various stages of formation in Oregon, Illinois, New York, and California. In February, 1986, a brake was applied to the formation of CUBs when the United States Supreme Court ruled that state regulatory commissions may not require utilities to enclose consumer group inserts in bills.

A third method of consumer representation before state utility commissions involves "proxy advocacy" (Gormley 1983) whereby a governmental organization represents consumers in a particular jurisdiction. Unlike regulatory officials, proxy advocates recommend rather than make policy. Proxy advocates come in three forms: (1) an independent consumer counsel or utility advocate, (2) a division within the state attorney general's office, or (3) special staffs within the state utility commission.

Given that forms of consumer representation differ with respect to their exposure to public pressure, the constituencies they are asked to represent, and the expertise and financial resources they can bring to bear, it seems reasonable that some forms might be more effective than others. Yet, little is known about the relative effectiveness of consumer representation across and within the three general approaches. The majority of research attention has been focused on the differences between states with appointed versus elected commissioners. Only one study has compared the conditions under which private, grass-roots advocacy, but not private advocacy, reduced the percentage of electric company rate requests granted by state commissions. No study to date has examined differences among types of private advocates or among types of proxy advocates.

Besides ignoring the role of proxy advocates, research on the political aspects of public utility regulation has focused primarily on electricity issues, to the near exclusion of natural gas and telephone policies. The lack of research on telephone issues may be attributable to the fact that, prior to deregulation of that industry, local telephone rates were reportedly subsidized by long-distance calling and equipment charges. As a result of artificially low basic telephone rates for both residential and business customers, state regulators were largely spared from political pressure. With deregulation of the telephone industry, state regulators have only recently faced the unpleasant task of ruling on substantial rate increases requested by local telephone companies (Noll 1985).

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The primary objective of the research reported here is to compare the extent to which the three dominant forms of proxy advocacy benefit residential telephone consumers. The analysis controls for additional factors which could influence telephone rates, including aspects of the political environment other than proxy advocacy.

PREVIOUS RESEARCH

The escalating electricity rates of the 1970s stimulated interest in assessing the impact of the structure of state regulatory commissions on utility rates. Economists tended to view such commissions as counterproductive and advocated deregulation of energy prices. Political scientists and consumer activists, while sharing the view that commissions were not doing a good job of holding down rates, offered a different solution--make regulators "tougher" on utilities and more accountable to the ratepayers. The means advocated for reforming state utility regulation included open meeting requirements, full disclosure of lobbying efforts, and, more frequently, the direct election of commissioners (Pelsoci 1979).

A number of studies have been conducted to assess the impact of elected versus appointed commissioners on electric rates. There is a great deal of variation among studies with regard to the exact nature of the dependent variable. Some studies measure residential electricity prices directly (Crain and McCormick 1978; Mann and Primeaux 1986; Pelsoci 1979). Other studies use related measures of commission performance, including the ratio of residential to business rates (Costello 1984), permissible rates of return (Hagerman and Ratchford 1978), the ratio of the rate hike granted to the rate hike requested by the utility company (Gormley 1983), and the average revenue per kilowatt-hour (Harris and Navarro 1983).

The general model underlying the diverse studies of electricity rates is that rates are a function of three types of conditions: (1) supply, (2) demand, and (3) political/regulatory. The supply and demand conditions are included as control variables in the study of the political/regulatory influences on electricity rates. A number of factors potentially affect the supply schedule for electricity and therefore its price to consumers: the cost of acquiring fuel, the proportion of total generation obtained from low-cost hydroelectric sources, population density, degree of competition from publicly-owned electricity companies, the ratio of residential to business sales volume (also possibly interpretable as a demand factor), and tax payments per kilowatt-hour of sales. In most studies, demand for electricity is measured in terms of a state's per capita income.

Regarding the potential political influences on rates, the method of selecting commissioners is the most commonly included variable. Results have been equivocal, with a few studies showing that elected commissioners dampen electricity rates (Crain and McCormick 1978; Mann and Primeaux 1986) but most showing no relationship between rates (or related dependent variables) and method of commissioner selection (Costello 1984; Gormley 1983; Hagerman and Ratchford 1978; Harris and Navarro 1983; Pelsoci 1979).

A number of other political variables have been tested for their relationship to electricity rates (or related measures). As in the case of method of commissioner selection,, the results are often contradictory. Pelsoci (1979) found that the higher the number of commissioners, the higher were electricity rates. However, Hagerman and Ratchford (1978) reported that the number of commissioners had no bearing on rates. Larger utility commission staffs were related to lower rates in one study (Pelsoci 1979), but a more inclusive measure of commission resources (i.e., commissioner salaries, budget size, data processing capacity in addition to staff size) was positively related to the percentage of rate requests granted (Gormley 1983).

Additional political factors have been scrutinized in single studies. Shorter commissioner terms were related to lower rates of return (Hagerman and Ratchford 1978), and certain types of proxy advocates (i.e., utility consumer counsels and special staffs under the attorney general) were related to lower percentages of rate requests granted (Gormley 1983). The number of years since the establishment of a commission, the level of grass-roots advocacy, and a state's political culture were found to be unrelated to the dependent variable under study (Pelsoci 1979; Gormley 1983).

To sum up, studies of the political influences on public utility regulation have examined electricity rates, to the exclusion of rates for telephone service and natural gas. Of the political variables included in models of residential electricity rate determination, virtually none have been consistently related to electricity rates, including the method of selecting utility commissioners. Moreover, little attention has been given to methods of enhancing consumer representation other than direct election of commissioners. The one exception is a study by Gormley (1983) in which he finds that grass-roots advocates are effective when issues are not technically complex and proxy advocates are effective when all classes of consumers (including business customers) have the same interest. However, even Gormley's study does not investigate differences among grass-roots advocates or among proxy advocates in terms of their relative impact on utility rates. The research reported here addresses some of the existing gaps in the literature by examining the impact of different types of proxy advocacy on the level of residential telephone rates.

METHODS

The Model. When hearing rate cases, the members of state utility commissions generally weigh both the producers' arguments regarding an equitable rate of return and consumer advocates' arguments regarding the consumer's ability and willingness to pay for service (i.e., the price and income elasticity of consumer demand for this service). While supply and demand factors clearly play a major role in setting prices for regulated utilities, a state's political institutions may be important as well. To test for the possible influence of the state political environment on the pricing of local telephone services, we estimate a model where rates for residential telephone service are posited to be a function of supply, demand, and political factors.[5]

Supply Factors. Telephone company representatives argue that the most important determinant of the price of local telephone service should be the cost of providing service. This, in turn, is highly dependent on the geographical dispersion of customers within a local telephone exchange (more specifically, the average distance between subscribers and their switching center). Holding other factors constant, the average cost of serving customers is lower in more densely populated exchanges than in less densely populated ones.

Demand Factors. The demand factor that has been included most frequently in past studies of utility rate determination is per capita income. The effect of consumer income on commissioners' pricing decisions is presumed to be positive. It can be argued that the lower consumer income in a state, the more likely people are to drop off the system if there is an increase in the price of basic telephone service. And since basic phone service has historically been viewed by society as a necessity, commissioners should be reluctant to set higher telephone service prices in states where household income is low. Pelsoci (1979) found state per capita income to be positively related to average residential electrical rates, but Crain and McCormick (1978) found no relationship between per capita income and electricity prices. Thus, findings regarding the relationship between income and electricity rates are equivocal and, in any event, may not be applicable to telephone rates.

The value of receiving service depends on the number of individuals and businesses that can be reached with a local telephone call. Since a local dialing area usually contains several exchanges, the number of accessible parties within a local dialing area is related to but not equivalent to the subscriber density of a single exchange. The residents of a small and large city may be equal with respect to exchange density, but the residents of the large city are likely to have access to a greater number of subscribers for the cost of basic telephone service. Thus, customers in the large city should be willing to pay higher rates.

Commissioners' decisions regarding the pricing of local telephone service may also be influenced by their perception of the relative availability of basic phone service substitutes. In particular, if an area has a local measured service (LMS) option, the commissioners may view it as a low cost option that poorer households can switch to in the event of an increase in the price of basic flat-rate service. In areas where LMS is not available, commissioners may be reluctant to increase the price of basic flat-rate service for fear that a price increase may cause some households to drop off the telephone system entirely. Thus, it is anticipated that basic flat-rate service will be priced higher in areas where LMS is available compared to those areas where LMS is not available, all other factors held constant.

Political Factors. Three elements of the political environment are hypothesized to affect the pricing of local telephone service. The first factor is whether or not the state public utility commissioners are appointed or elected directly by the public. Some consumer advocates have argued that if commissioners are elected by the public they will be more likely to represent the consumer's interests and take a hard line on utility companies' requests for rate increases. If this is true, then basic telephone rates will be higher in those states where the commissioners are appointed rather than elected, ceteris paribus.

The second political variable included in the model is the length of the public utility commissioners' terms. Commissioners' terms vary from four to ten years depending on the state. Hagerman and Ratchford (1978) found that longer terms of office were related to higher allowed rates of return for electric companies. They reasoned that longer terms insulate commissioners from public pressure and allow them to be less concerned about public approval. While this interpretation is possible, it should be pointed out that longer terms also insulate commissioners from utility industry pressure. Thus, the relationship between commissioner terms and utility rates could be either positive or negative.

Finally, it is hypothesized that the type of governmental organization representing the consumers' interests in rate cases before a commission will influence the price of basic telephone service. Some types of proxy advocates may be better able to present the consumer's perspective in a rate hearing than others. In particular, the strongest proxy representation is likely to exist in those states where the designated agency is an independent consumer counsel or utility advocate. Such agencies combine specialized knowledge regarding utility issues with an unencumbered mandate to represent the interests of residential consumers (and sometimes small businesses as well). They have no other competing goals that might compromise their representation of the consumer's interests in rate cases. Special staffs within the state public service commission are likely to be highly knowledgeable on utility matters, but they may find it difficult to represent the residential consumer's interests because their superiors, the commissioners, are required to balance many competing interests (e.g., utility companies, large and small business customers, and residential consumers). The state attorney general's staff is free from the difficult balancing act that must be performed by a utility commission's staff. However, the attorney general's office must divide its resources among many disparate concerns and may not develop the specialized expertise necessary to argue the consumer's position effectively in rate cases. Therefore, it is posited that the basic price for telephone service will be lowest in those states that have independent consumer counsels and highest in states where proxy advocacy is performed by the attorney general's staff, holding other factors constant.

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[5] In a traditional supply-demand analyses, the dependent variable of interest is the quantity of the good/service rather than its price. In regulated utility markets, prices are set by the public service commission and consumer demand and producer supply adjust accordingly until the market clears. The analysis done here focuses on the factors that influence the commissioners' decisions about price setting. In this spirit, it is posited that commissioners' decisions are based in part on their assessment of current market environment and how a price change might alter supply and demand for the utility in question.

The selection process of state utility commissioners, the length of their terms, and the type of proxy advocacy are potential influences on residential telephone rates. A fourth factor, the quality and extent of consumer advocacy by private consumer groups, may be important as well. A few states have citizen's utility boards, and most other states have some form of grass-roots consumer advocacy for telephone issues. Unfortunately, comparing private consumer advocacy among states is a difficult measurement task and beyond the scope of the present study.

The Data. The data used to test the hypotheses outlined above have been compiled from several different secondary data sources. In some instances, the available operational measures were only approximations of the variables that theoretically should be included in the model. It is therefore important to discuss the strengths and limitations of these data before moving to the empirical analysis.

The data for several of the variables used in this analysis come from a National Association of Regulatory Utility Commissioners' (NARUC) publication entitled, Bell Operating Companies' Exchange Service Telephone Rates (1986). Rate data for companies other than Bell Operating Companies are not included in this publication, thus non-Bell companies are omitted from the analysis that follows. Given that Bell Operating Companies serve over 86 percent of the telephone subscribers in the United States, it is therefore quite likely that the data used here represent state utility commissions' general price setting patterns. If public service commissions weigh different factors (or weigh the same factors differently) when judging the merit of rate change requests made by non-Bell Operating Companies, then the analysis done here may have limited generalizability to the larger regulatory environment.

The rate data in the NARUC publication is organized by states, and within states, by telephone rate groups. In the empirical work that follows, rate group is the unit of analysis. All but five states had more than one flat-rate residential rate group, with one state having as many as thirty. A rate group is a combination of one or more operating exchanges that charges the same basic rate for all subscribers in a classification (e.g., business, single-party residential, multi-party residential). Rate groups are commonly used by public service commissions to differentiate classes of subscribers for the purposes of evaluating requests for rate changes. Rate groups are usually defined by the number of other local subscribers that can be called. For example, if the range of a rate group is identified as 100,000 to 200,000, a subscriber in any one of the exchanges included in this group will have a local calling network that is somewhere between 100,000 and 200,000 other subscribers. Although there are several exceptions, the NARUC data indicate that the larger the calling range of the rate group, the higher the basic service charge for that rate group.

Information from the NARUC publication on the residential flat-rate one-party subscriber rate for a rate group is the dependent variable in the analysis. Of the various residential rates available, flat-rate service was used (rather than lifeline rates, for example) because (1) these rates are the most comparable across states and (2) residential flat-rate subscribers are the largest classification of ratepayers. Residential flat-rate subscribers represent, depending on the state, between 52 and 84 percent of all subscribers, including businesses. The average percentage of single-party residential flat-rate subscribers in the forty-one states where such information is available is 74 percent of all subscribers (NARUC 1986).

Data on residential flat-rate monthly service charges for rate groups in forty-seven states are included in this study. Omitted due to insufficient information or the absence of Bell Operating Companies are Alaska, Hawaii, and Rhode Island. These rates exclude taxes, extended area service charges, and any other miscellaneous charges.[6] In total, data on 356 rate groups are analyzed here. Also coded from the NARUC publication is information on the presence or absence of an LMS option for each rate group, the total number of single-party flat-rate residential subscribers in each rate group, and the number of exchanges in each rate group.

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[6] Three states (Iowa, Nebraska, and South Dakota) had two different residential flat rates for the same rate group. One rate was charged if local measured service (LMS) was available to the subscribers and another basic residential flat rate was charged when there was no LMS option. In all three states the basic residential flat-rate was higher when LMS was available. For the purposes of the analysis done here, when there were two residential flat rates for one group, the one rate group was treated as two groups with the "LMS available rate" used for one group and the "LMS not available" rate used for the other group.

When holding constant the number of residential subscribers in a group rate, the number of exchanges per rate group provides a measure of the subscriber density of the rate group. For example, if two rate groups each have 100,000 subscribers, a rate group containing two exchanges will be denser than a rate group with twenty exchanges.

Data on the exact number of lines that can be accessed in a local dialing area was not available. In some cases, ranges were given (e.g., 100,000 - 200,000), but they included all classifications of business and residential lines. Where such data were available, the range given for a rate group's size was roughly proportional to the total number of residential subscribers in that rate group. Therefore, the number of residential subscribers in a rate group is used as a proxy measure of the size of a local dialing area.

Data on each state's public service commissioners' length of term and manner of selection have been taken from a publication entitled Regulatory Focus (1985). Length of commissioner term has been measured in years. If a state's commissioners are elected directly by the citizens, they are classified as "elected." All other means of selection are classified as "not elected." This latter category includes those states where the commissioners are chosen by the governor or the legislature, and the one state where commissioners are selected by the state supreme court.

The classification of proxy consumer advocates is derived from information provided in a National Association of State Utility Consumer Advocates' publication (NASUCA 1985). For each state, the interests of residential telephone subscribers are coded as being represented by (1) designated staff in the attorney general's office, (2) designated public service commission staff, or (3) an independent agency (i.e., a state agency that is independent of both the public service commission and the attorney general's office).[7]

Per capita income data were also coded for each state. These data were taken from the Statistical Abstract of the United States (Bureau of the Census 1986). Like the political variables, the data for per capita income were collected for the 1984 calendar year, whereas the dependent variable, the price of basic residential flat-rate service, was measured as of December, 1986. This allows for the possibility of regulatory lag whereby commission rate decisions take time to reflect economic and political conditions. Descriptive statistics for all of the variables used in analysis appear in Table 1.

TABLE 1. Descriptive Statistics (N = 356)

Variables	Definition	Mean	Standard Deviation
FLATRATE	Price of Basic Single-Party Residential Service per Month (in dollars) for a Rate Group	12.6	3.09
LMS	Dummy Variable; 1 = Local Measured Service Option Available in a Rate Group, 0 = No Local Measured Service Option Available	.781	.414
INCOME	1984 Per Capita Income for a State (in dollars)	12,049	1,547
EXCNUM	Number of Exchanges in a Rate Group	19.4	31.8
RGSIZE	Number of Single-Party Residential Lines in the Rate Group	168,744	421,906
APPOINT	Dummy Variable; 1 = Public Service Commissioners are Appointed, 0 = Otherwise	.725	.447
PSCTERM	Term of Public Service Commissioners (in years)	5.48	1.09
CONREP1[a]	Dummy Variable; 1 = Consumer's Interest is Represented by the Attorney General's Staff, 0 = otherwise	.315	.465
CONREP2[a]	Dummy Variable; 1 = Consumer's Interest is Represented by Public Service Commission Staff, 0 = otherwise	.284	.451

[a] The omitted category in this series of dummy variables is composed of those rate groups in states where the consumer's interest in rate cases before the public service commission is represented by an independent state agency.

ESTIMATION AND RESULTS

The objective of this research is to examine the role, if any, that political variables play in the setting of local telephone rates. To this end, two regression equations are estimated. In the first, full model specification, the supply, demand, and political variables have been included. In the second, restricted-model specification, the political variables have been omitted. In both equations, a series of state dummies have also been included to control for state specific effects. The parameter estimates for the two equations appear in Table 2.

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[7] In Alabama, Illinois, and New York, more than one agency was listed by NASUCA as representing the consumer's interest in rate cases before the public service commission. Furthermore in California, Oregon, and Wisconsin, CUBs/Bill Access was recorded as the proxy advocate for residential telephone subscribers. In this study proxy advocates are defined to be those agencies that receive a budget directly from the state and are an officially recognized agency within the state government. Although CUBs may have intervenor status in rate hearings, they are basically independent of state control and thus cannot be identified as proxy advocates. In those few cases where more than one state agency was listed or when a CUB was listed as the consumer representative, a second publication, Regulatory Focus was used to identify the primary proxy advocate in the state.

TABLE 2. Estimates of the Restricted and Full Equations with Basic Monthly Flat-Rate Residential Service as the Dependent Variable (t-ratios in parentheses)[a]

Independent Variables	Full Model Coefficients	Restricted Model Coefficients
CONSTANT	56.6 (5.21)**	27.0 (4.78)**
LMS	1.78 (4.51)**	1.98 (5.06)**
INCOME	−0.00362 (−3.45)**	−0.00143 (−3.00)**
EXCNUM	−0.0172 (−4.90)**	−0.0168 (4.79)**
RGSIZE	1.97×10^{-6} (4.70)**	1.35×10^{-6} (4.35)**
APPOINT	.592 (0.450)	——
PSCTERM	−1.76 (−2.55)**	——
CONREP1	7.55 (1.86)*	——
CONREP2	6.49 (2.66)**	——
R^2	.777	.766
Adjusted R^2	.741	.732
F	21.7**	22.6**

* Significant at .10 level ** Significant at the .05 level.

[a] A series of dummy variables are included in the estimation of both equations to allow for state specific effects that might exist when different rate group observations are taken from the same state. To facilitate discussion of the results, these dummy variable coefficients have been omitted from the table.

A test of the significance of the total impact of the political factors on the price of residential flat-rate service can be made by comparing the unadjusted R^2's between the full- and restricted-model equations. This test indicates that by adding the political variables to the model, the explanatory power of the equation is significantly increased.[8]

A more detailed assessment of the role that the political environment plays in the setting of basic residential telephone rates can be gleaned by examining the estimated coefficients in the full-model specification. Virtually all of the estimated coefficients in this equation are statistically significant. The one exception is the coefficient associated with the dummy variable that measured whether the commissioners are appointed or elected. It would appear that the election versus appointment of public service commissioners has no impact on the basic flat-rate charge for residential telephone service, ceteris paribus. This finding is supported by most studies of the relationship between method of commissioner selection and residential rates for electricity.

The other political variables in the model fared better than the method of commissioner selection in explaining variation in the prices charged for basic residential telephone service. Each of these coefficients will be discussed in turn.

The coefficient associated with the length of the commissioners' terms indicates that basic telephone rates set by commissioners with longer terms are lower than those set by commissioners with shorter terms, other factors held constant. This is contrary to a finding with respect to allowed rates of return on equity for companies providing electricity (Hagerman and Ratchford 1978). In the case of telephone service, longer terms seem to insulate commissioners from utility pressure, while in the case of electricity, longer terms seem to allow commissioners to ignore public pressure.

Regarding the coefficients for the two consumer representation dummies, recall that the estimated coefficients are interpreted relative to the omitted category--those states where an independent agency represents the consumer's interest in telephone rate cases before the commission. Holding other variables in the equation constant, the estimated coefficients show that basic residential rates are \$6.49 higher when the state public utility commission staff acts as the proxy consumer advocate, and \$7.55 higher when the task of proxy advocacy falls under the mandate of the attorney general's office. This relative ranking of proxy advocate effectiveness conforms with our a priori hypothesis (although the difference between representation by the attorney general and commission staffs was not statistically significant).

Although this analysis emphasizes the role of the political environment in the setting of local telephone rates, the estimated impact of the supply and demand factors that were included in the equation warrant some discussion. Three demand factors--per capita income, a dummy variable that measures the presence or absence of an LMS rate option, and a value of service measure--are included in the regression.

The estimation indicates that if per capita income rises by \$1,000, local telephone rates drop by \$3.60, ceteris paribus. This statistically

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[8] This test statistic is calculated as:

$$\left[\frac{R^2 f - R^2 r}{1 - R^2 f}\right] \times \left[\frac{n - f}{f - r}\right] = F$$

where, $R^2 f$ = the unadjusted R^2 for the full model equation, $R^2 r$ = the unadjusted R^2 for the restricted model, n = the sample size, f = the number of parameters in the full model, and r = the number of parameters in the restricted model, and r = the number of parameters in the restricted model. This statistic has an F distribution with (f - r) and (n - f) degrees of freedom (Kmenta 1986). In terms of the two equations estimated here, the test statistic is:

$$\left[\frac{.777 - .766}{1 - .777}\right] \times \left[\frac{356 - 49}{49 - 45}\right] = 3.76$$

The critical value for F (p=.05; 4, 307) = 2.37.

significant negative relationship is contrary to the relationship that was initially hypothesized. One possible explanation for this finding is that households in high income states make more intrastate long-distance calls than households in low-income states. The telephone revenues produced from the added long-distance calling in these high-income states might be used to subsidize the provision of local telephone services at lower basic rates.

The LMS coefficient shows that rate groups having an LMS option pay $1.78 more for one-party, flat-rate local telephone service than those rate groups where no LMS option is offered, ceteris paribus. This estimate supports the hypotheses that commissioners will be more willing to raise basic rates when a low cost option is available for low income households.

The total number of subscribers in a rate group, holding number of exchanges constant, was entered into the equation as the best available measure of the value of service (i.e., the number of lines that can be accessed within the local dialing area). The hypothesis that rates would reflect value of service is supported by the positive coefficient for the variable measuring the number of single-party, flat-rate residential subscribers in a rate group.

Finally, the sign and magnitude of the statistically significant coefficient on the supply variable should be noted. The number of exchanges in a rate group, holding constant the number of residential subscribers (as well as all other variables in the equation), is a measure of the geographical dispersion of the subscribers. The greater the number of exchanges, the more geographically dispersed the subscribers are and the more costly they are to serve. The estimated negative coefficient associated with number of exchanges shows that, contrary to the initial prediction, if subscribers are more scattered, the basic telephone service rate is lower, ceteris paribus. This negative relationship is consistent with the historical pattern of minimizing cost considerations in rate-setting in favor of subsidizing rural customers at the expense of urban customers.

DISCUSSION AND CONCLUSIONS

Public utility regulation has a long history of modifying economic considerations in light of political ones. Nowhere has this been more true than in the case of telecommunications services, where the concept of universal service and a vast system of subsidies have required a departure from cost-based approaches to pricing. The increasing deregulation of the telecommunications industry is likely to reduce but not eliminate the role of political factors in rate determination. This study has attempted to explore the impact of several political factors on rates for residential flat-rate local telephone service, while controlling for supply and demand factors.

One of the study's overall conclusions is that emphasis on the political determinants of telephone rates is justified but that contemporary proposals for reform may have selected the wrong target. Whereas direct election of public utility commissioners has been advocated as a means of holding down telephone rates, the method of commissioner selection had little relationship to local residential rates in this study. Rather, the length of commissioner terms and the form of proxy advocacy employed by a state government appear to be important influences on telephone rates. Judging from the study's findings, consumer advocates ought to be pursuing longer commissioner terms and the establishment of an independent consumer counsel as means of holding down rates for flat-rate residential service.

What explains the relationship between longer commission terms and lower telephone rates? One possibility is that longer terms allow commissioners to ignore political pressure exerted by local telephone companies. Another is that longer terms help commissioners develop the technical expertise needed to challenge successfully the complex and amply documented rate requests filed by telephone companies. Given that an earlier study found that longer commissioner terms were associated with higher allowed rates of return for electric companies, it is important that future research explore further the relationship between the length of commission terms and commission decisions for different types of public utilities.

The findings regarding the relative influence of the three forms of proxy advocates on local residential rates also call for further investigation. Two dimensions of proxy advocacy--technical expertise and commitment to the interests of residential consumers--were used here to predict differences among independent consumer counsels, utility commission staffs, and attorney general staffs. Other differences among proxy advocates might exist as well. In particular, how do the three types of proxy advocates compare with respect to the resources at their disposal, including staff size and compensation? Also, since attorneys general vary greatly in their political orientation, is it possible that the efforts of pro-consumer attorneys general are counterbalanced by the indifferent efforts of others? Furthermore, the relationship between proxy advocacy by government entities and private advocacy by consumer groups needs to be examined. It is possible that levels of private advocacy account for both the type of proxy advocacy found in a state and the rates allowed by its utility commission, with no inherent relationship existing between the latter two.

Another of the major conclusions of this study is that economic factors of supply and demand may play less of a role in rate determination than one might expect in an increasingly deregulated environment. There is certainly room for improvement in the way that supply and demand factors were measured in this study, but the presence of counterhypothetical results is striking. On the demand side, local residential telephone rates were lower, not higher, in states with higher per capita incomes. One might have expected that commissioners in less wealthy states would have held down the price of local telephone service to prevent subscribers from dropping off the system. On the supply side, rates were lower, not higher, for subscribers who were geographically dispersed. The lower cost of serving densely packed subscribers did not seem to be reflected in lower rates.

The unexpected nature of the relationship between some economic factors and residential telephone rates might simply be the legacy of a period of regulation in which political and social considerations overwhelmed economic ones. If so, one would expect the influence of supply and demand factors to increase over time as telecommunications markets are further deregulated. As economic considerations are weighted more heavily in commission decisions, proxy advocacy (and other forms of consumer representation) will remain important as a source of input regarding consumer concern for fairness as well as efficiency in the pricing of local telephone service.

REFERENCES

Chandy, P.R. (1986), "Utility Commissioner Selection Method: Implications for Consumers, Investor and Firms," *Arkansas Business and Economic Review*, 19 (No. 3): 26-30.

Citizen's Utility Board (1987), "The People's Right to Choose," Salt Lake City, Utah, pamphlet.

Costello, Kenneth W. (1984), "Electing Regulators: The Case of Public Utility Commissioners, "*Yale Journal of Regulation*, 2 (Month): 83-105.

Crain, W. and R. McCormick (1978), "Regulators as an Interest Group," University of Rochester, Working Paper Series No. 8004.

Gormley, William T., Jr. (1983), *The Politics of Public Utility Regulation*, Pittsburgh, PA: University of Pittsburgh Press.

Hagerman, Robert L. and Brian T. Ratchford (1978), "Some Determinants Allowed Rates of Return on Equity to Electric Utilities, "*Bell Journal of Economics*, 9 (Spring): 46-55.

Harris, Malcolm C. and Peter Navarro (1983), "Does Electing Public Utility Commissioners Bring Lower Electric Rates?" *Public Utilities Fortnightly*, 112 (No. 5, September 1): 23-27.

Kmenta, Jan (1986), *Elements of Econometrics*, 2nd edition, New York: MacMillian Publishing.

Mann, Patrick C. and Walter J. Primeaux (1986), "Regulator Selection Methods and Electricity Prices," *Land Economics*, 62 (No. 1, February): 1-13.

National Association of Regulatory Utility Commissioners (1986), *Bell Operating Companies' Exchange Service Telephone Rates*, Washington, D.C.: December 31.

National Association of State Utility Consumer Advocates (1985), "Consumer Representation in Commission Proceedings," addendum to manual, Washington, D.C.

Noll, Roger G. (1985), "'Let Them Make Toll Calls': A State Regulator's Lament," *American Economic Review*, 75 (No. 2, May): 52-56.

Pelsoci, Thomas M. (1979), "Organizational Correlates of Utility Rates," in *Energy and Environmental Issues*, edited by Michael Steinman, 101-115, Lexington, MA: Lexington Books.

Regulatory Focus (1986), Annual Reviews of State Activity, Jersey City, NJ: Regulatory Research Associates, Inc.

U.S. Bureau of the Census (1986), *Statistical Abstract of the United States:1987*, 107th edition, Washington,D.C.: U.S. Government Printing Office.

THE HIERARCHY OF CONSUMER PARTICIPATION: A MODEL OF KNOWLEDGE AND PROFICIENCY IN DECISION MAKING

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This paper establishes a "hierarchy of consumer participation" comparable to the hierarchy of political participation developed by Milbrath (1965, 1982). Analysis of consumer decision making required by the deregulation of telecommunications shows that independence of decision making, propensity use of sources of information, and propensity to influence others' decisions are highly interrelated. Four main types of consumers are identified: consumer influentials, active consumers, dependent consumers and non-decision makers. The levels of consumer participation should be highly salient in defining targets and programs for consumer research, education, protection and policy.

INTRODUCTION

The consumer education literature reveals a differential receptiveness on the part of consumers to the understanding and use of consumer information and education. Receptiveness to consumer education may vary according to (1) cognition, (2) social background characteristics, (3) occupational grouping, (4) participation in community affairs, (5) level of perception of consumer problems, (6) propensity to complain, (7) and information seeking methods (Bourgeois and Barnes 1976; Wackman and Ward 1976; Wilkie 1976; Hempel and McEwen 1976; Bloom 1976; and, Alder and Pittle 1984; and Hyman 1986, 1987). Similar patterns have been identified for complaint behavior and participation (Hill 1982; Warland, Herrmann and Moore 1984; Hyman 1986; Miewald and Comer 1986).

Participation in American society also is not evenly distributed throughout the population. those who participate in social, economic and political affairs tend to reflect higher levels of income, education and age (Verba and Nie 1972.) Different patterns of participation have also been identified. Some citizens choose to remain outside, or on the periphery, of decision making. Others become intensely involved. A "hierarchy of political participation" has been identified (Milbrath 1965, Milbrath and Goel 1982).

This study takes a step toward synthesis by using the logic of the political participation model to examine consumer decision making and consumer education. A "hierarchy of participation in consumer decision making," based on independence of decision making, use of information, and propensity to influence others is established; and the relationship with social background characteristics, and propensity to be aware of and take action on related consumer problems. Data from an empirical study of mandated consumer decision making in the wake of the deregulation of telecommunications are used as the basis for a model which posits the existence of conceptually and empirically distinct sub-groups based on their proficiency in consumer decision making.

Important policy and program implications derive from the study inasmuch as different approaches to consumer education, protection and policy logically are required for each sub-group. The findings provide policymakers, educators and researchers with a framework for understanding the different sub-groups and their dynamics, and also the social and personality characteristics associated with them. This information, in turn, can provide an approach to the development of more effective policies and programs to inform, educate and/or protect the different sub-groups as appropriate.

DATA AND PROCEDURES

Attendant to the deregulation of the telecommunications system in the U.S., all consumers were required to make decisions in several areas in the year prior to the study reported herein (we assume that taking a default after being requested repeatedly to make an active decision is, in fact, a decision--or a "non-decision"). There was extensive coverage in the media, and by consumer groups, regulators, and the telecommunications industry. All consumers had a relatively equivalent opportunity to know about these areas. Thus, the time element, information exposure, and opportunity to know are held relatively constant. This situation provided a relatively unique opportunity to examine consumer behavior in a situation where everyone had an equivalent opportunity to know and to act.

Data for the analysis are from a representative statewide sample of residential telephone customers in Pennsylvania, the state with the fourth largest urban and the largest rural population. The sample was selected by random digit dialing procedures using the operating ranges of numbers for each local exchange. The result is a completed sample of 500 respondents which forms the basis for this analysis. The dependent variables consist of data on the respondents' recall of information and decisions related to four areas in which decisions have been required as a result of the breakup of the Bell and AT&T system: (1) knowledge of the new structure of the telecommunications industry as indicated by understanding the separation of long distance and local service systems; (2) customer premise equipment--the ownership of the phone itself; (3) local calling options--the payment or service plans offered by the local company; and, (4) inside wire maintenance--the ownership of telephone wires within the respondent's home. All respondents were required to make decisions in these four areas in the period preceding the study.

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A three-tiered hierarchy was utilized to assess the level of knowledge of each respondent: recall, the highest level, is the ability to explain the decision area with no or little prompting; recognition, the second level, is the ability to identify a choice when presented with several options; and ignorance, the final level, involves responses which are incorrect on both of the above levels, as well as "don't know" responses. Consumers were then asked about the independence of their decision, sources of information used, and whether they were involved in influencing others. Several composite measures, scores or scales, are constructed by combining responses from several related items. These procedures provide the basis for examining the interaction of the several dimensions of decision making.

A DECISION-BASED HIERARCHY OF PARTICIPATION IN DECISION MAKING

The research on general participation leads one to conclude that those who are more informed aremore rational in their decision- making practices and have higher levels of participation. This section of the study explicitly addresses this issue. Specifically, it is hypothesized that more proficient consumer decision makers tend to make their own decisions; they are more informed and educated; they have the appropriate knowledge and experience for consumer decision making; and, they exhibit a higher propensity to affect the decisions of other consumers, and those in positions of corporate and/or political authority.

Levels of Knowledge and Independence in Decision Making

The telephone ownership decision was chosen as a basis for exploring this issue for several reasons. All consumers were asked to make a choice in the period immediately before the study. It is a high visibility decision in that consumers are confronted daily in magazines, shopping centers, catalogs, etc. with offers of phones to buy. Both industry and consumer groups had extensive information and education programs about this issue. Thus every consumer had the opportunity to know about, and to learn about this issue. Given the offer and the opportunity, we expect that those who are less informed are those who have a lower propensity to perceive and use consumer information materials, and we will examine the issue of whether they are less proficient in their consumer decision making.

First, a large majority of consumers (73 percent) are knowledgeable about their customer premise equipment. About one in three, however, needs to be prompted to recognize this option (20 percent), or is ignorant of this choice (7 percent). These data form the basis for examining independence and dependence in decision making.

Second, following questions about the level of knowledge for the telephone ownership decision, consumers were asked to identify the degree of independence of their decision. Table 1 shows that about two out of three consumers report making their decisions entirely or mostly by themselves. About one in three reports receiving considerable help in making the decision. This distribution across the decision-making categories is conducive to further examination of factors associated with the decision.

TABLE 1. Independence Of Consumer Decisions For The Telephone Ownership Choice

Decision made:	Percent
Entirely by self	43.9%
Mostly by self	19.2
Equally with someone	24.7
Mostly by someone else	4.0
Entirely by someone else	4.1
Default--did not act	4.1
Total	100.0% (489)

The Information-Getting Propensity

Third, consumers were then asked about whether they "got information or advice regarding buying or leasing telephones" from any combination among six possible sources. About half of the consumers (51 percent) report using phone company information to inform their decision. About a third use family or friends (39 percent), and a similar proportion uses the print media (33 percent). About one-fourth uses broadcast media (25 percent). Less than one percent reports using information from government sources or community groups. It is clear that not all consumers use the same sources, and some consumers use more than one source.

Zero to six different types of information sources could be named by each respondent. When we total the number of types of sources of information used for each respondent, an "information-getting score" is produced which represents the propensity to use different sources of information in decision making. Eighteen percent report no sources of information were used for their decision. Most consumers (59 percent) report using one or two types, 21 percent report three or four, and few consumers (2 percent) report using four to six. This is as hypothesized, and provides a basis for the third part of our hypothesis--use of information according to the independence of decision making.

Table 2 presents data on the independence of the phone ownership decision according to the total number of sources of information the respondent reported using in making the decision. It shows that a highly significant relationship exists between independence of decision and number of sources used.

TABLE 2. Independence of Decision Making and Number of Sources Used

Indep. of Decision	TOTAL NUMBER OF SOURCES USED 0	1	2	3	4	5	6	Total
6 - ALLSELF (All by self.)	17.2%	30.2%	29.3%	15.4%	5.6%	1.2%	0.5%	99.4% (215)
5 - MOSTSELF (Mostly by self.)	8.5	29.8	23.4	28.7	8.5	1.0	-	99.9% (94)
4 - EQUALELSE (Equal with someone else.)	14.9	36.4	29.8	14.9	1.7	2.5	-	100.2% (121)
3 - MOSTELSE (Mostly by someone else.)	10.5	63.2	10.5	15.6	-	-	-	99.8% (19)
2 - ALLELSE (Entirely by someone else.)	15.0	85.0	-	-	-	-	-	100.0% (20)
1 - DEFAULT (Took default = company decided.)	100.0	-	-	-	-	-	-	100.0% (20)
Total %	18.0	34.0	25.2	16.6	4.5	1.6	0.2	100.0
N	(88)	(166)	(123)	(81)	(22)	(8)	(1)	(489)

There is a clear pattern whereby those who report greater independence in decision making also report using a higher number of sources of information for their decisions. Independence in consumer decision making is thus associated with a "propensity to utilize more sources of consumer information." Conversely, those who allow someone else to decide for them use few sources of information--they appear to be truly unknowledgable and dependent. These data support the third part of our hypothesis.

Information-Giving: The Propensity to Influence Others

The fourth and final part of our hypothesis expects that those who are more confident in their own decision making will be relied on to a relatively greater extent by others and/or they will try to influence others. We examined this aspect of the issue by asking all respondents about whether they told others about the phone ownership options, helped others make their decision, and/or tried to influence policymakers about the issue. Most consumers do not report involvement in the decisions of others, nor are they involved in complaining or trying to influence decision makers; but, those involved in influencing exhibit a definite pattern.

Considering the premise equipment decision, the majority (57 percent) do not give advice to others, complain to officials in the business involved, or express their opinions to political or community leaders. About one in three (36 percent) give information and advice to acquaintances. About 5 percent complain to officials in the telephone company. Only a small percentage (less than two percent) contact community leaders, newspapers or magazines or government leaders about the issue. This being the case, we have the basis for examining whether those who take action to aid or influence others are more confident and proficient consumers.

Specifically those who report making the phone ownership decision themselves, or relatively independently, also report influencing others to a greater degree. (Note that these data are based on the number of different **types** of attempts to influence others, not the actual number of attempts at influence. An individual may have given advice to a number of others, which would be reported here as having been involved in one type of influencing.) Conversely, those who are more dependent on others for their decisions typically are not involved in aiding or influencing others. This pattern is consistent with the previous pattern, and supports the creation of a scale which combines independence of decision making, use of information sources, and propensity to influence others.

Decision Independence and Information Getting/Giving Propensities

To examine all four aspects of our hypothesis together, we constructed a scale based on the level of knowledge weighted first by the independence of decision, second by the propensity to use information (the information-getting score), and third by the propensity to influence the decisions of others (the information-giving score). Table 3 presents data on the relationship of the combined information-getting and -giving scores to independence of decision making.

TABLE 3. Independence of Decision Making and Propensity to Influence Decision of Others

Decision Independence	INFO GIVING/GETTING INDEX 0	1	2	3	4-5	6-7	8+	Total
6 - Allself	12%	20%	17%	18%	17%	14%	4%	102% (215)
5 - Mostself	7	21	14	23	12	21	1	99% (94)
4 - Equalself	11	25	21	18	11	12	2	100% (121)
3 - Mostelse	11	58	11	11	-	11	-	102% (19)
2 - Allelse	5	70	10	15	-	-	-	100% (20)
1 - Default	100	-	-	-	-	-	-	100% (20)
Total %	14	24	16	18	12	14	2	100%
N	(69)	(119)	(78)	(87)	(60)	(67)	(9)	(489)

There is a clear pattern. Those consumers who exhibit greater knowledge and independence in their own decision making have a higher than average tendency to get information from a variety of sources, and to influence the decisions of others. These data provide support for the construction of a "consumer decision making scale" (CDS) based on the combination of the scores for independence of decision, information-getting and information-giving. This scale is used to examine the relationship between proficiency in consumer decision making and other relevant variables.

Social Background and Consumer Proficiency

The social background of consumers in each of the levels of the consumer decision scale (CDS) is informative regarding the targets and need for action and the approaches required for successful implementation. In particular, data on age, education and household income provide insights into the dynamics of consumer decision making. Four levels of proficiency are established by comparing raw frequencies for the CDS with the data presented in Table 3. Consideration of the need for relatively equivalent proportions for statistical analysis is also made. Low scores on the CDS are associated with low consumer proficiency and vice versa.

Age: Table 4 shows that proficiency in decision making is significantly related to the age of the consumer. Significantly higher proportions of older consumers rank low on the decision-making scale. And while there is a progression across the age groupings, the major differences emerge with the 45 and older groupings. Thus, younger consumers tend to be more proficient in their decision making; they exhibit more independence in making choices, and they report using more types of information sources and more areas of attempts to help or influence the decisions of others.

TABLE 4. Consumer Decision Making and Age

Consumer Decision Scale (CDS)	Age LT30	30-44	45-59	60+	Totals*
Low	27.4%	26.6%	37.6%	37.7%	31.8%(154)
Moderate 1	28.6	28.3	32.5	43.4	32.7 (158)
Moderate 2	34.5	30.5	23.9	14.2	26.0 (126)
High	9.5	14.7	6.0	4.7	9.5 (46)
Total	100.0% (80)	100.1% (214)	100.0% (77)	100.0% (116)	100.0% (484)

Chi sq = 28.41, 9 DF; p = 0.001
* Totals are the same for all CDS tables and are not repeated.

Education: The education of consumers also shows a statistically significant relationship with proficiency in decision making (Table 5). Consumers with more than a high school education score significantly better on the hierarchy of participation than do those with a high school education or less. Twice as many of the groupings with high school education or less score low on the scale; and, those with more than a high school education are more than twice as likely to score in the higher levels of proficiency in decision making.

TABLE 5. Consumer Decision Making and Education

Consumer Decision Scale (CDS)	Education LT HS	HS Grad	So Coll	Coll+
Low	41.3%	36.5%	22.1%	24.1%
Moderate 1	41.3	31.8	31.2	29.3
Moderate 2	12.5	23.8	32.5	36.5
High	3.7	6.4	10.3	10.3
Total	100.1% (80)	100.0% (214)	100.1% (77)	100.0 (116)

Chi sq = 25.8, 9 DF; p = 0.002

Income: The total household income of respondents is not significantly related to their level on the decision-making hierarchy, although a pattern is suggested. We do note that very few consumers with incomes less than $10,000 score high on the scale, and conversely for those with incomes $20,000 and above; these differences fall short of statistical significance.

THE CONSUMER DECISION HIERARCHY AND ASSOCIATED DECISIONS

In order to establish the generalizability of these results, and to support a consumer decision making hierarchy, we examine the relationship between the consumer decision scale (CDS) and other telecommunications decisions made by the same respondents. The CDS, being based on a single decision area, might well be a unique phenomenon. If, however, higher scores on the hierarchy are associated with higher levels of consumer knowledge in other areas, a basis for inferring a general phenomenon will be supported. This section examines this relationship.

Table 6 shows the levels of consumer knowledge on three telecommunications decisions, and knowledge of the body responsible for regulating utilities in Pennsylvania. Based on the tripartite distinction on level of knowledge--recall, recognition, ignorance--the table indicates that varying levels of knowledge exist in the general consumer population for the different decision areas.

TABLE 6. Levels of Knowledge on Telecommunications Decisions

DECISION AREA	Level of Knowledge Ignorance/ Don't Know	Recognition	Recall	Total
Phone Ownership	7%	20%	73%	100% (497)
Wire Maintenance	29	17	54	100 (488)
Knowledge of PUC	4	57	39	100 (477)
Local Options	10	73	17	100 (374)

The table lists the decisions with the higher aggregate levels of recall first, and lower levels later. The consuming public is most informed about the phone ownership decision, with three out of four respondents being able to explain the options without prompting. This is followed by the inside wire maintenance choice, and understanding of the regulatory system as manifest in knowledge of the Public Utility Commission. The ability to recall the three local phone service options is lowest, with less than one out of five consumers being able to name two or more of the three options which were available to them (and from which they had made a choice, including defaults, in the year preceding the study). Since the CDS hierarchy is reflective of the phone ownership decision, we will examine the extent to which consumer knowledge in the other areas is associated with higher levels of consumer participation in decision making.

TABLE 7. Consumer Decision Making and Knowledge Level For Associated Telecommunications Decisions

A. Inside Wire Maintenance

Consumer Decision Scale (CDS)	Ignorance/ Don't Know	Recognition	Recall	
Low	38.9%	30.6%	28.8%	
Moderate 1	32.4	37.7	31.4	
Moderate 2	20.1	17.6	31.4	
High	8.6	14.1	8.3	
Total	100.0% (139)	100.0% (85)	99.9% (244)	(488)

Chi Sq = 13.3, 6 DF; p = 0.039

B. Local Service Options

Low	33.3%	30.8%	15.4%	
Moderate 1	41.7	34.4	27.7	
Moderate 2	22.2	24.9	43.1	
High	2.8	9.9	13.8	
Total	100.0% (36)	100.0% (273)	100.0% (65)	(374)*

Chi Sq = 15.7, 6 DF; p = 0.016

*Lower N's occur because several companies had not implemented a local service option choice.

Table 7 shows the relationship between consumers' levels on the CDS and their knowledge level on two associated telecommunications decisions. There is a significant correlation between the CDS and knowledge in both areas. Thus, we infer that there is a pattern which exists across decisions. This pattern is demonstrated more strongly when we establish a combined telecommunications decision index for each respondent and examine its relationship to the CDS. Table 8 shows a significant relationship between the combined "telecommunications decision index" and the consumer decision scale.

TABLE 8. Consumer Decision Making and Level of Knowledge on Key Telecommunications Decisions

Consumer Decision Scale (CDS)	Telecom. Decision Index Low	Moderate	High	Total
Low	28.0%	43.0%	29.0%	100.0%(100)
Moderate 1	18.8	48.4	32.8	99.9 (122)
Moderate 2	15.8	35.6	48.5	99.9 (100)
High	16.1	45.2	38.7	100.0 (37)

Chi Sq = 14.92, 6 DF; p = 0.022 (360)

TABLE 9. Consumer Decision Making and Knowledge of The Public Utility Commission

Consumer Decision Scale (CDS)	Ignorance/ Don't Know	Recognition	Recall	
Low	47.4%	37.1%	22.0%	
Moderate	21.1	30.5	38.2	
Moderate 2	26.3	22.4	30.7	
High	5.3	9.9	9.1	
Total	100.1% (19)	99.9% (272)	100.0% (186)	(477)

Chi Sq = 15.6, 6 DF; p = 0.016

Further support for this conclusion, and the generalizability of the CDS hierarchy to other areas, is provided in Table 9 which depicts the relationship between the consumer decision scale and knowledge of the utility regulatory body. Again, those consumers with higher decision scale scores also have higher levels of understanding of the regulatory system.

A logical inference from these findings is that the people who rank higher on the CDS hierarchy have a comparative advantage both in the marketplace and in the regulatory arena. We would expect them to be more proficient in exercising their consumer rights and responsibilities.

These analyses thusly identify a cumulative character to consumer capabilities in the socio-economic arena. Social background, achievement in education, consumer knowledge and competence, and outcomes in the marketplace are highly interrelated. The comparative advantage enjoyed by some is counterbalanced by the relative disadvantage of others. The existence of an "underclass" may be more pervasive than otherwise presumed.

IMPLICATIONS FOR THE FIELD: A HIERARCHY OF PARTICIPATION IN CONSUMER DECISION MAKING

Consumers are not equally independent in their decision making, they are not equally well informed, they do not use the same sources of information, nor do they equally attempt to influence others. Most importantly, we have demonstrated that level of knowledge, decision independence, propensity to use information sources, and propensity to influence others are significantly related. The empirical findings thus support the creation of a "hierarchy of consumer participation" comparable to the hierarchy of political participation developed by Milbrath (1965, 1982). Four main types of consumers are identified: consumer influentials, active consumers, dependent consumers, and non-decision makers. Figure 1 presents a graphic summary of the hierarchy of consumer participation. Consumer proficiency increases as one moves up the hierarchy.

Consumer influentials are both active and proactive--they make their own decisions using a variety of sources of information, and they are also involved in influencing the decisions of others. At lower levels, influentials give information and advice to family, friends and acquaintances. At higher levels, they seek to influence seller practices, community action, and/or public policy. Consumer influentials exhibit the characteristics of leaders, whether this leadership is in relation to a close circle of significant others, or broader corporate and public policy circles. Consumer influentials are open to, and most likely seek, information about options; and they are sought out by others for information and advice. These individuals are not only targets for consumer information and education, they also provide a reservoir of talent, motivation, and leadership for informing others and influencing policies and programs.

FIGURE 1. Hierarchy Of Consumer Participation

CONSUMER INFLUENTIALS-- Active and also involved in others' Decisions.	TAKES POLICY/CLASS ACTION COMPLAINS TO AUTHORITIES COMMUNITY/GROUP MEETINGS HELPS OTHERS MAKE DECISIONS
ACTIVE CONSUMERS-- Decide based on information sources.	ENLISTS AID OF COMMUNITY LEADERS PARTICIPATES IN COMMUNITY MEETINGS GETS INFORMATION FROM MEDIA GETS INFORMATION FROM FAMILY/FRIENDS GETS INFORMATION FROM SELLERS, ADVERTISING
DEPENDENT CONSUMERS-- Let others decide.	DO WHAT COMMUNITY INFLUENTIALS SAY TO DO WHAT FAMILY/FRIENDS SAY TO DO
NON-DECISION MAKERS-- No active involvement.	NO ACTION--DEFAULT, AND KNOWS CHOICES NO ACTION--DEFAULT, DOESN'T KNOW ABOUT CHOICES NO ACTION--DOESN'T KNOW OR CARE

Source: Hyman, 1987

Active consumers, are informed consumers to varying degrees--they make their own decisions based on information from one or more sources. At lower levels on the hierarchy, these consumers may get help from others or decide conjointly with others. At higher levels, their decisions will be generally independent of others, based on information from one or more sources. Active consumers tend to make their own decisions, and they make them based on various degrees of knowledge of options open to them. They tend to be reasonably knowledgeable about the various options, and their concern is more for their own decisions rather than others. Active consumers are prime targets for a variety of consumer information and education programs, and, to varying degrees, they know how to use what they receive.

Dependent consumers let others decide for them--they uncritically do what significant others do or tell them to do. Thus their decisions tend to be made without direct personal consideration of information or evaluation of options. To the extent that the decision leaders to whom they defer understand their situation and have their interests foremost (as with a parent, close friend, or community helper), the final outcomes will most likely be positive. To the extent that the decision leaders have their own (or their business') interest foremost, or at least are unconcerned about the interest of the dependent consumer, the final outcomes will be negative, or at the best, benign. Dependent consumers are prime targets for misleading and deceptive practices, self-serving sellers, con-persons, and unscrupulous businesses. If the negative outcomes are to be avoided, these people require either well-informed, interested and available consumer influentials on whom to rely, or, protection via regulatory specification of defaults, allowable practices, and close monitoring of industry practices.

Non-decision makers are proxy decision makers--they do not take an active part in their decisions and, typically by default, someone else decides for them. At the "lowest" level, they are uninformed about the decision area, apparently do not care, and when offered a choice, take no action. By default, they frequently give the seller a proxy to decide for them. These people are perhaps the most problematic from both personal and social perspectives. Their health and safety may be threatened by the consequences of non-decisions. They may be unable to afford the goods or services provided by default. They may command resources which they cannot use or which will be used indiscriminately. When such situations occur, individual harm leads to pain and suffering, and increased requirements for other resources such as hospitals, public health, police, fire, income assistance, and other protective services. Companies may need to expend significantly higher resources in collections, complaint handling, monitoring, restitution and protective services. And the public finds itself in the dilemma of either allowing social and personal costs to accrue or protecting these people from negative consequences of their inaction. Consumer information and education programs may be lost on these people who cannot or will not benefit from them; consumer protection may be the only way to avoid the health, safety and economic problems associated with this group.

Program and Policy Implications of the Hierarchy

The levels of consumer participation, based on proficiency and initiative in decision making, are expected to be highly salient in defining targets for consumer action--whether it be research, education, protection or policy. Non-decision makers require either consumer protection by official bodies or fundamental, in-depth education about how and why they need to make wise decisions, as well as information about options for specific decisions. Policymakers generally cannot expect traditional consumer information programs to lead to informed decision making by these "proxy" decision makers. Rather, these consumers need protection if they are to be spared the vicissitudes of the marketplace. Dependent consumers must have knowledgeable, interested, and trusted consumer influentials who are readily available when decisions are to be made. They, too, might benefit from fundamental, in-depth, consumer education. Otherwise, either private corporate or regulatory practices must assure that the defaults and dominant choices available will have either positive or benign outcomes. Active consumers are the primary target for consumer information end education. Their varying degrees of openness to information, different levels of proficiency, and use of different distribution media, must all be considered in designing and implementing programs and policies. Consumer influentials generally seek out information on their own and are open to a variety of sophisticated approaches. They are potential targets for detailed information as they will become the sources used by others in making decisions. In addition, these consumer leader-types provide a reservoir of interest and talent for developing and revising policies and programs. They may become involved in changing policies or directions of agencies, corporations or organizations.

CONCLUSIONS

The analyses presented in this paper find a persistent and pervasive relationship between micro-level consumer decision making in specific areas of consumer decision making and citizen/consumer behavior in seeking and using information, and in influencing corporate and public policy and practice. It suggests that patterns of participation, knowledge-seeking and decision making are deeply rooted in the socio-political personalities of consumers. This phenomenon, in turn, creates differential patterns of bias in the American political culture.

We have established a "hierarchy of consumer participation" in decision making, at least in one area, with a high probability that it represents a more general phenomenon. We have also demonstrated significant correlations between consumer decision making, propensity to use information for decisions, propensity to influence others, and social background characteristics. Thus we approach a synthesis of knowledge from a number of fields including political science, sociology, consumer economics and education; as well as between concepts of participation, political culture, socialization, information seeking, and decision making. The results should be useful methodologically, theoretically and practically for research, program design and public policy analysis.

REFERENCES

Alder, Robert S. and R. David Pittle (1984), "Cajolery or Command: Are Education Campaigns an Adequate Substitute for Regulation?" Yale Journal on Regulation, Vol 1:159, pp. 159-193.

Bloom, Paul N. (1976), "How Will Consumer Education Affect Consumer Behavior?" Advances in Consumer Research, Urbana, Ill.: Association for Consumer Research, pp. 202-218.

Bourgeois, Jacques C., and James G. Barnes. "Consumer Activists: What Makes Them Different?" Advances in Consumer Research, Urbana Ill.: Association for Consumer Research, (1976), pp. 73-80.

Hempel, Donald J., and William J. McEwen. "The Impact of Mobility and Social Integration on Information Seeking." Advances in Consumer Research. Urbana, Ill.: Association for Consumer Research, (1976), pp. 341-347.

Hyman, Drew. "Prosuming, Participation, Consumer Education and the Deregulation of Telecommunications." Journal of Voluntary Action Research, Vol. 15, No. 3, (July-September 1986), pp. 7-23.

Miewald, Robert D., and John C. Comer. "Complaining as Participation." Administration & Society, Vol. 17, No. 4, (Feb. 1986), pp. 481-499.

Milbrath, Lester W. Political Participation. Chicago: Rand McNally and Co., (1965).

--------, and M.L. Goel. Political Participation. 2nd ed. N.Y.: University Press, (1982).

Verba, Sidney, and Norman H. Nie. Participation in America. N.Y.: Harper and Row, (1972).

Wackman, Daniel B., Scott Ward, and Marketing Science Institute. "The Development of Consumer Information-Processing Skills." Advances inConsumer Research, Urbana, Ill.: Association for Consumer Research, (1976), pp. 531-535.

Wilkie, William L. "Consumer Information Acquisition: Public Policy Perspectives." Advances in Consumer Research. Urbana, Ill.: Association for Consumer Research, (1976), pp. 334-340.

CONSUMER AND RESEARCHER RESPONSE TO THE DEREGULATION OF THE TELECOMMUNICATIONS INDUSTRY: COMMENTS ON CUDE, HYMAN, AND BURTON, MAYER, AND ZICK

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The papers discussed below are linked by the common industry which they examine. The Cude and Hyman articles address consumer decision making in the newly deregulated aspects of the telecommunications industry. The Burton, Mayer, Zick paper, on the other hand, investigates consumer representation in the still regulated local service segment. As a group, the papers significantly contribute to our understanding of consumer issues in and beyond the telecommunications industry.

These refereed papers shared another commonality besides the industry studied. As submitted to this discussant, they were all clearly written. Furthermore, such clarity facilitated an evaluation which did reveal some marked differences in their more substantive aspects: their conceptual and/or theoretical development, the breadth and depth of their literature reviews, and their methodologies and execution.

CUDE

The author mail surveyed a local sample of Illinois Bell customers in order to determine the extent and type of information sought in the equal access (i.e., long distance carrier) decision. The author also ex post facto examined the relationship between the "intensity of search for information and selected characteristics". In other words, the study does not test hypotheses about relationships among variables, but rather generalizes univariate sample characteristics to the population; and as the author points out, was "exploratory" in terms of searching for possible relationships.

ACCI papers should not necessarily be required to include tests of theoretically linked hypotheses or to include extensive literature reviews. However, the ones that do so tend to be better focused, organized, and hueristic, and represent more enduring contributions to consumer science [1].

Although she does not test for a related hypothesis, the author does suggest possible explanatory variables for search/non-search behavior such as Nelson's notion of an "experience good". Any related future research should also benefit from a review of the extensive information processing, perceived risk, and involvement literature from marketing in generating appropriate hypotheses.

Since this paper then is largely an atheoretical, ad hoc effort to determine population needs and desires concerning equal access information, the representativeness of the sample becomes critical. The author herself, however, notes its severe limitations. A 35 per cent response rate in such a survey typically results in non-response bias in the form of a more highly educated, wealthier, younger, and more activist sample.

Concerning the author's exploratory logit analysis to determine any relationships among measured variables, the sample representativeness may not be as critical as in the univariate analysis unless one hypothesizes interaction effects between underrepresented characteristics and the relationships found. The dependent variable analyzed was level of search activity undertaken in the equal access decision. Two "exploratory variables" were found to be significantly related. Age was negatively related to equal access search activity while "usual amount of pre-purchase search" was positively related. The above variables represent different measures of similar concepts addressed by Hyman. Furthermore, the noted relationships found among them tend to support his results.

HYMAN

The author telephone surveyed a statewide sample in order to determine their decision making and decision influencing characteristics regarding certain deregulated aspects of the telecommunications industry. Like Cude, Hyman found recent deregulation to be an opportunity to efficiently survey a general population's response to a particular set of product/service decisions since their information exposure, opportunity to know, and mandated decision/non-decision time were relatively constant.

Unlike Cude, however, Hyman's major purpose was to test a theoretical structure with ramifications beyond not only consumer behavior toward the telecommunications industry but beyond consumer behavior as well. He hypothesizes a "hierarchy of consumer participation comparable to the hierarchy of political participation developed by Milbrath".

More specifically Hyman hypothesizes that independence of decision-making, propensity to use sources of information, and propensity to influence other's decisions are highly interrelated. Furthermore, these characteristics can be combined to determine different levels (or groups) of consumer decision makers/influencers. The groups thus determined can be both a useful dependent variable for exploring possible determinants and a useful guide to developing a differential mix of information, education, and/or protection appropriate for each group.

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The author's results generally support his hypotheses. The data indicate that the participation variables are interrelated. Furthermore, the groups indentified by the combined scores are related to age and education, but not income or poverty. As indicated earlier these results are somewhat supported by Cude's exploratory analysis.

Hyman's analysis concerning relationships with demographics, however, may have benefited from a multivariate approach to control for confounding factors. For instance, he states that although the relationship between consumer participation level and income is not statistically significant, "a pattern is suggested". If the typically confounding variable, education, were controlled, the author may find that income by itself would not even "suggest" a pattern, let alone be significantly related to consumer participation levels. Likewise, the author implies that poverty may be related to consumer participation levels even though it was not found to be statistically significant. Perhaps so, but his conclusions may have been less equivocal if he tested and controlled for more specific behavioral variables such as education, sex, and marital status which are likely to be confounded with poverty.

As stated previously, Hyman's paper has larger theoretical purposes than just an examination of consumer behavior toward the telecommunications industry. However, one may wish to consider whether or not some of the conclusions are warranted by the results. For instance, the author states that "The analyses presented in this paper find a persistent and pervasive relationship between micro-level consumer decision making in specific areas of consumer decision making and citizen/consumer behavior in seeking and using information, and in influencing corporate and public policy and practice". The latter part of the statement implies that a propensity to influence (or simply try to influence) public policy was related to the other participation variables. As far as I could determine not only was that not the case but it could not have been the case given the author's data. He reports only 2% (10 people?) who contacted "community leaders, newspapers, or magazines or government leaders about the issue."

Likewise, the author identifies consumer influentials (in Figure 1) as those who are more likely to undertake political activities such as taking policy class action complaints to authorities, and participation in community group meetings. Yet again, so few people in the sample did these things, that such definitive conclusions cannot be drawn from the data.

The author may have inadvertently extrapolated his results because of the conceptual linkage with Milbraith's hierarchy of political participation. Political activities largely promise public goods or benefits. Hyman primarily measured activities that promised private goods or benefits. The former may be more a result of societal orientation while the latter may be more a result of narrower self-interest behavior. Similarly, political behavior may be partially a function of a propensity to join organizations. Being a proficient consumer, on the other hand, seems less likely to be related to such a propensity.

The policy implications drawn by the author may also be somewhat overstated. For instance, he contends that "...non-decision makers...need protection." But is it possible that this group does not perceive the consumer decisions addressed here to be important enough to require protection? And/or that they perceive "protection" measures in general to be undesirable from a political, economic, philosophical and/or other perspective? If so, should the attitudes and values of the group to be protected be considered at least as important as those of an individual author or even those of most consumer educators and/or advocates in determining policy approaches? Past studies may shed some light on this related issue of consumer attitudes toward policy approaches. Kroll and Stampfl, for instance, found that older respondents (more likely to be "non-decision makers" or "dependent consumers" in the current study) did tend to prefer protection-oriented government interventions as opposed to information/education approaches. Likewise, the more educated respondents (more likely to be "active consumers" or "consumer influentials") did tend to prefer the latter[2]. Such related findings offer further support for the current study's policy suggestions.

BURTON, MAYER, AND ZICK

In contrast to Cude and Hyman, these authors investigated a still regulated component of the telecommunications industry: flat rates for residential service. They wished to determine the impact of several political and regulatory factors such as type of consumer representation directly provided by state government, the length of public utility commissioners' terms, and method of commissioner selection.

Like Hyman, however, their purposes also transcend the telecommunications industry. Their literature review encompasses empirical studies in other utility industries and the hypotheses generated are largely in response to gaps and inconsistencies in utility representation research in general. For example, theirs is the first research concerning any utility industry which examines differential impacts of types of proxy advocates.

The authors thus frame the problem at an appropriate level of generality yet focus in on specific issues common to utility regulation across industries. Such breadth coupled with clarity and circumspection of purpose allow the rest of the analysis to fall neatly into place. Appropriate variables and relationships are measured and tested. Some of the results fill in the identified gaps in previous research. For instance, independent consumer counsels tended to achieve superior results in comparison to other state advocacy structures such as designated staff in attorney generals' offices.

Other paper results contradicted past assumptions and/or empirical results. Method of commissioner selection was not found significantly related to flat-rate levels. Likewise, longer terms for commissioners were found to result in lower flat-rates for consumers in contrast to Hagerman and Ratchford who found that shorter terms were related to lower rates of return.

The results, whether filling in gaps or contradicting other research, were easily put into perspective by the authors' prior analyses of related research. The authors' conclusions and recommendations are likewise harmonious with the rest of their analysis. For instance, considering their results, they question whether the efforts toward securing elected commissioners in more states are as worthwhile as would be efforts toward securing an appropriate state advocacy structure.

Concerning the authors' discussion of possible explanations and future research on the relationship between length of commissioners' terms and telephone rates, a few suggestions may be appropriate. In addition to the authors' possible explanations for why longer commission terms lead to lower rates, future research should also base competing hypotheses on counter arguments. Much political science literature on captive agencies, for instance, would probably suggest Hagerman and Ratchford's results that the longer the term, the higher the rates.

Perhaps different arguments carry different weights over the length of a commissioners' service. If so, interaction or non-linear hypotheses may be relevant. What if, for example, in the early portion of a commissioners' term the need for technical expertise or learning curve arguments are the most relevant, while toward the latter portion the co-option by industry arguments become paramount. One would thus expect a parabolic relationship between length of service and lower rates. That is, initially as length of service increased, better service and lower rates to consumers would result because of the growing technical competence of the commissioner. As time went on, however, service to consumers would gradually erode due to increasing contact with industry personnel, and thus greater understanding and/or sympathy with their positions.

SUMMARY

The papers presented in this session represent not only studies of different aspects of the same industry, but also different levels of objectives and their attainment. Cude's objectives were largely industry specific and she should be commended for having increased our knowledge of consumer response and needs concerning the equal access decision. Her exploratory analysis may have also contributed to supporting some of Hyman's thesis and in generating hypotheses for future research.

Hyman should be commended for his larger theoretical objectives which can have ramifications for understanding consumer decision making per se as well as consumer decision making concerning telecommunications deregulation. The results generally supported his hypotheses. However, conclusions concerning the relationship between consumer purchase and consumer political activities must await further research.

Burton, Mayer, and Zick are to be commended for contributing to our knowledge of consumer interest issues in telecommunications regulation and utility regulation in general. More specifically they should be commended for clearly positioning their research in a stream of related empirical studies. They succinctly and persuasively communicate where utility regulation research has been, where it stands now, and where it is likely to go. They have thus elegantly served the cumulative knowledge function of science.

REFERENCES

Robert J. Kroll, "The Role of Theory in the Development of Consumer Science", in Consumer Science in Higher Education: A National Symposium, Madison: University of Wisconsin, 1983, 17-23.

Robert J. Kroll and Ronald W. Stampfl, "Orientations Toward Consumerism: A Test of a Two-Dimensional Theory," Journal of Consumer Affairs, Winter, 1986, 214-230.

AMERICAN COUNCIL ON CONSUMER INTERESTS

Frank E. Young, M.D., Ph.D.

Good afternoon. I am happy to be here today at the 34th annual conference of the American Council on Consumer Interests. It has been too many years since the Commissioner of FDA has met with the ACCI to discuss our common goal to improve consumer information, education, and research.

As the head of a government agency devoted to consumer protection and as a physician, I have always put the individual patient or consumer first. Most often that means making a careful, objective evaluation of the facts at hand as we make regulatory decisions that have great public health significance. For example, if we were to act too quickly in the drug review process in response to controversy or to the divergent interests of our constituencies, we might endanger the public. On the other hand, if we act too cautiously, the public will not be able to take advantage of the great advances in modern medicine.

These advances are what make our job so challenging and so gratifying. Largely because of the miracles of modern science, the public increasingly expects that "magic bullets" will be found for almost any disease or condition. These growing expectations have been accompanied by a skyrocketing desire for more information.

The FDA has responded to consumer needs for more information because we believe an informed consumer is vital to avoiding potential hazards in FDA-regulated products and because education to prevent public health problems is often the best answer we have.

I will talk today about some of FDA's consumer education activities, which include efforts to combat health fraud associated with AIDS and other diseases, the development of health messages on food labels, as well as a campaign to combat the misuse of steroidal drugs. However, as we all know, effective consumer education on public health issues is just not simple. The subject matter is complex, diverse and ever-changing, and too much or too little information can cause problems.

Consumer education is difficult -- but not impossible -- and the rewards are worth the price. An informed consumer is a vital link in the chain of consumer protection as we strive to take advantage of the advances of modern science while minimizing the risks.

Consumer Education Requires Cooperation

Just as there is no one solution to consumer education, no one group can do it alone. FDA needs input from professional, scientific and consumer groups to develop balanced, accurate educational messages. Then we need to work together to find ways to reach target groups with maximum timeliness, effectiveness, and efficiency.

Later today, we will honor the private sector winners of the first joint FDA-National Coalition for Consumer Education (NCCE) contest. We want to encourage more such efforts, and we also want you to help us get these and other valuable educational messages to the public.

Your research is vital to FDA and other groups who do consumer education. We need to know more about consumer perceptions, behaviors, and motives. I congratulate you on your participation in forums such as this conference, and I urge you to continue applying the results of your research to effective consumer education.

Understanding FDA

Since I am going to be talking about a few FDA programs designed to educate consumers, I think it only fitting that I start with our campaign to explain the drug development process to consumers. FDA's Office of Public Affairs has developed a series of articles in the award-winning FDA Consumer that started with a special issue on drug development, and will continue with a future special issue on food safety.

As a former educator, I believe that the public now, more than ever before, needs a clear understanding of how new drugs are developed, reviewed, and approved. Consumers are also patients or potential patients. They need to understand the different steps in drug development, why they are necessary, and what FDA, the pharmaceutical industry, and health professionals are doing to make those steps as short as possible. We feel confident that American consumers have access to some of the most safe and effective pharmaceutical products in the world.

We feel it is important that consumers recognize that FDA is a valuable ally as they make health-related decisions. Trust is a product of honesty, and that is why we want consumers to know what we are doing. FDA does not have all the answers, nor can we guarantee that every FDA-approved product is absolutely safe or effective. What we can do is do our best to inform consumers about the risks and benefits that underpin agency decisions, so they in turn can make responsible personal decisions to improve their health while avoiding potentially harmful products or behaviors.

If consumers understand the process, they will be less vulnerable to false hopes, better able to realistically gauge the true value of real breakthroughs and better equipped to recognize health fraud when it occurs. The disease AIDS brings a critical new focus to this need for information, but the same principles apply to other serious diseases, as well as perceived physical problems that tempt people to try fraudulent products.

Health Fraud and AIDS

As I said before, the terrible disease AIDS requires us to take special measures. We are doing everything possible to bring safe and effective drugs and vaccines to the people who need them as soon as possible. Although some people, even AIDS patients, claim FDA is not allowing the marketing of effective AIDS drugs, that is just not true. We hope that public understanding of the drug review process will help to dispel this myth.

With a vaccine many miles down the road, we have looked for ways to help people decrease their risks of getting the disease. For example, one critical area of FDA's concern is the safety of condoms and surgical and examination gloves. Clearly though, consumer education is vital both to AIDS issues in general, and to health fraud in particular.

There is no doubt that AIDS patients and their familiies are bombarded with an increase in fraudulent treatments that purport to do some good against AIDS. So-called "treatments" include blue-green algae, injections of hydrogen peroxide, the food preservative BHT and herbal capsules that contain poisonous metals. For uninfected consumers, there is a spermicide that untruthfully claims to kill the AIDS virus and the "saniform," a piece of plastic to cover telephone mouthpieces that was promoted to protect against infection from public phones. The latter, of course, not only takes people's money, but spreads lies about methods of transmission.

To counter these types of health fraud, we have mobilized our inspection force to investigate these products and take enforcement action when necessary. However, the need for consumer education is absolutely critical, even if the so-called treatments are technically harmless. At the very least, some of the more subtle and indirect frauds, unproven drugs and other products are costly. At the worst, they cause patients to ignore more traditional treatments or to believe they are protected when they are not. A recent headline in the Washington Post said it best with, "AIDS sufferers buying hope." I would add that they are most likely buying false hope.

With such a proliferation of new fraudulent products to treat AIDS, education is essential so that consumers can understand the difference between science-based medicine and magical cures. FDA has established a special initiative, coordinated by the Office of Consumer Affairs, to monitor the problem and work with other organizations, including AIDS activist groups, to educate the public. For example, FDA cosponsored a national health fraud conference in March to inform consumers and professionals about ways to combat health fraud.

We also published an article on AIDS fraud in the October issue of the FDA Consumer and have issued an alert to all state and local food and drug officials, urging them to work with us. It might interest you that we have established a health products and promotions information exchange network with the National Association of Consumer Agency Administrators. Currently, FDA, the Federal Trade Commission, and the United States Postal Service, as well as NACAA members, contribute valuable information to the network on recent enforcement actions, press releases, publications, education materials, and contact people.

It is the type of network we are working to develop with our outside constituencies, such as the ACCI, as well.

We have alerted consumers how to spot AIDS fraud; suggestions include being wary of amazing breakthroughs, or products "guaranteed to work," as well as fake scientific explanations or treatments that can only be obtained outside the United States.

We welcome your help in finding the best ways to reach the public so that they are not so vulnerable to fraud.

Consumer Education: Diet and Health

Now let me move to a discussion of another subject of FDA concern: consumer education regarding the links between diet and disease. Consumer education on this topic is quite a challenge since the scientific solutions to such conditions as cancer, heart disease, and osteoporosis are complex and a final concensus has not been reached.

FDA has a long tradition of educating consumers about the foods they eat. Since 1973, FDA has required manufacturers to put the nutrient content of a food on the label if nutrients have been added or if a nutrition claim is made. Some 55 percent of all foods that come under FDA's jurisdiction now carry nutrition labeling.

Americans are showing an increased interest in preventing disease through dietary changes. And even though scientists don't have all the answers, FDA wants to be responsive to consumers' needs for the latest information. We do have some evidence that these diseases are connected to overconsumption of foods high in fat, cholesterol, salt, and alcohol and underconsumption of some essential factors such as calcium and fiber.

Food Labeling as Consumer Education

The food label has always been one of our best tools to inform the public. One of FDA's most critical responsibilities involves maintaining consumer trust in the safety of food, in the credibility of food labeling and in the integrity of food packaging. If false, misleading or inadequately supported information appears on food labels, public trust in labeling and indeed in the products themselves, could be compromised. If that were to happen, consumers may become confused and disregard all information on labels.

We know that food labels can be a useful source of information. Since FDA's nutrition labeling regulations were adopted in 1973, nutrition labeling has increased to 55% of the retail value of foods regulated by FDA, with 59% having sodium labeling. Recent surveys show that 75% of the public looks to food labels for information ranging from nutritional content to warnings on tamperings.

Educators, scientists, government and industry must work in partnership if we are to meet our mutual goal of providing truthful and nonmisleading information about diet and health to consumers.

Health messages

We are currently facing quite a challenge as we address the issue of explicit health messages on food labels. We intend to be cautious, but we must also recognize that public health policy can not always wait for the scientific surety of absolute scientific proof. We must be open to new information and do everything possible to support new evidence that will banish uncertainties. Consumers should have the best, most current information about the links between diet and disease, but consumers also need to know that we simply don't have all the answers at this point. Good nutrition is a function, not of specific foods, but of total diet over time.

We are still in the process of determining how a new policy of allowing explicit health messages on food labels could best serve the needs of consumers and health professionals while not overregulating a food industry which has an excellent track record. The majority of consumers we have consulted as we have formed our policy believed that concerns about misleading claims were outweighed by the benefit of having more information on which to base their food choices. Many consumer activists, however, have voiced concerns that if health messages are not pre-cleared, they may be very difficult to monitor.

We do want messages to be based on and consistent with valid, reliable, scientific evidence that is publicly available. By encouraging scientific research in academia and industry, we will be in a better position to educate the public.

Targeted Information to Specific Audiences

Health messages on food labels are aimed at the public at large. However, many of the agency's consumer education messages will be more effective if they are targeted specifically to limited audiences.

Although there has been some debate about the connections between diet and disease, no one can deny the dangers of steroids that are being advertised to athletes -- even high school students -- as a quick way to build muscle. It's not clear that steroids build muscle, but it is clear they can stunt growth, cause cancer, and ruin the liver. FDA seized $7 million worth of illegal steroids last year and played the lead role among the Federal agencies that investigated and prosecuted dealers.

Enforcement actions are only part of the story. In a campaign aimed mainly at America's youth, FDA set out posters, video news releases, radio public service announcements and brochures to warn about the dangers of using anabolic steroids for body-building.

As with most, if not all, educational efforts, this campaign required cooperation among a number of groups. FDA worked with the Department of Education, the Drug Enforcement Administration, athletic coaching organizations, and the National Football League in the program. As a result, a newsletter and poster on steroids were sent out early in 1988 to 250,000 school officials, coaches and others. We also made available a videotape from the TV program "21 Jump Street," which dealt with steroids.

Young people tend to feel invulnerable -- so they are not an easy target group to reach with public health messages. To find effective ways to change dangerous behaviors in this group will require further research, cooperation, and variety of approaches.

Conclusion

FDA plans to expand its role as an educator -- a priority which is reflected in FDA's action plan to guide the agency into the 21st century. For example, FDA has initiated a series of national seminars on women's health issues such as osteoporosis, cancer, and nutrition. FDA is actively working with the National Council for Patient Information and Education to promote patient education, and is also cosponsoring a project on prescription drug education for elderly black patients with the auxiliary to the National Medical Association. This spring, FDA will also pilot test a joint "800" toll free hotline for consumers on foods issues with the Department of Agriculture.

From these examples, as well as from other excellent educational ideas we will discuss in the conference, we can see that consumer education from reliable sources is absolutely essential to public health. It is also obvious that we need cooperation and additional research if we are to find the best educational approaches to change health-related behaviors. As scientists, educators and regulators, we have a joint responsibility to find appropriate messages to protect consumers and prevent health problems. This is a challenge that we face together. But first, we need the public's understanding and trust. You might say that we follow Thomas Jefferson's dictum that "an informed public is an understanding one."

Let us work together so that consumers take advantage of the benefits of modern science while minimizing risks. I look forward to working with you in the future as we share research on consumer issues. Thank you.

A TYPOLOGY TO MEASURE THE IMPACT OF HOMEBASED WORK ON FAMILY QUALITY OF LIFE

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ABSTRACT

In recent years there has been significant growth in homebased work among women. Little research has been conducted to study the long run effects of quality of family life when one member is engaged in homebased work. A three dimensional typology has been developed which can be used to measure the effects of homebased work on quality of life and satisfactions with both the home and work situations.

Women have moved into the paid laborforce in growing numbers during the past decade. Recently, many have begun to examine income generating alternatives to enhance the family's economic position while permitting propinquious activity and family development to flourish. Working at home appears to offer this opportunity.

Current Population Survey estimates indicate that women work longer hours at home than do men: 60 percent more women than men labored the equivalent of a full-time work week at home (Horvath, 1986). Because women are typically the primary family caregivers, and home-based employment allows women to combine income generation with their caregiving activities, the potential for both positive and negative outcomes for women is amplified.

The increase in homebased work for women has received considerable publicity recently. The home knitters in rural areas of New England and the telecommuters geographically aligned with urban centers have been the focus of this publicity. Unions have voiced concerns about wages and working conditions and suggested that the home may be in the process of becoming a "sweat shop" where young children labor along with their parents to meet quotas specified by an absentee foreman (Plous, 1982)! Persons engaged in a range of homebased work activities disagree. These workers point to an enhanced quality of life brought about by the meshing of the work and home and emphasize the greater satisfactions possible due to the independence and feelings of control that would not be experienced in a traditional work environment (Hershey, 1985).

This paper proposes a typology of homebased work which can be used to measure the effects of women's in-home income generation on quality of family life and satisfactions with both the home and work situations. In the development of the typology the range of homebased work occupations are described and factors associated with the nature of the work and the work environment delineated and defined.

AN OVERVIEW OF HOMEBASED WORK

The production of goods in the home was a common practice among workers until the last century (Bernard, 1979). With industrialization the manufacture of goods for family consumption moved from the home to the centrally located factory, and women began their exodus from the home to the worksite. The civil war had opened the occupations of teaching and nursing to women, and by the turn of the century women were replacing men as secretaries, clerks, stenographers and office workers. Today women comprise 80 percent workers in these classifications (U.S. Department of Labor, #298, 1983).

During the 1970's fourteen million new workers entered the workforce, sixty-eight percent of whom were women. Approximately half of which were between the ages of 25 and 34 years (#298, 1983). As the number of married women in the workforce grew, there was a parallel increase in the number of part-time and self-employed females who sought to accommodate their jobs to meet child rearing and other family obligations. Of the nearly two million self employed women in the United States, approximately one half are believed to be homebased (Behr & Lazar, 1983).

The popularity of working at home has increased and has attracted attention of the media in recent years. Among reasons cited for the rise in its popularity are flexibility in meeting household demands, the need for a second income, disappointment with the corporate setting, distaste for commuting, transformation of a hobby into income production, a sense of independence, and the desire to spend more time with family members (Behr & Lazar, 1983).

Media attention came also with the controversy surrounding the recision of that segment of the Fair Labor Standards Act which restricted in home production of selected apparel items (Fortune, December 10, 1984). The primary opponents of homework are the unions who continue to cite the difficulty of monitoring employers who may be paying sub-standard wages. When work is assigned on a piece-work basis, there is no effective way of ensuring that employees take on a reasonable task load. Children can be helping their parents by stuffing envelopes, knitting or typing in violation of the child labor laws (Plous, 1982). The number of analytical and scholarly studies addressing issues related to homebased work is scarce. Most reports have appeared in the popular journals and are somewhat anecdotal. General conclusions which tend to ignore differences among types of homeworkers are drawn from small samples. Preliminary findings of a national survey on homebased work recently completed by researchers at New York University indicate that women opt for working at home in order to work at their own pace and to take care of their families. The most frequently cited advantages were to have more time to themselves, spend more time with children, and earn additional income. On the negative side, one third of the survey participants cited isolation as a disadvantage; and one fourth felt that they earned too little money (Hershey, 1985). Additionally, some women find that child care responsibilities hamper their ability to complete the work (Costello, 1987). These findings are in line with those of other smaller studies cited above which concluded that, due to flexibility of scheduling and availability of the worker to family members, working at home enhances the quality of family life.

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In an exploratory study, Beach (1985) examined the integration of work and family life of homeworkers engaged in a variety of occupations. She found that although the workdays were frequently interrupted by child, family, and household tasks, these workers were generally satisfied with their work environment. The amount of "job stress" resulting from the interruptions appeared to vary with the absorptiveness of the work. The homeworkers Beach interviewed tended to accommodate work to needs of the family which the subjects viewed as a positive aspect of their working at home. This exploratory study pointed to the need for further inquiry into the question of whether this blending of work and family is positive under a range of conditions.

For centuries the family farm served as both a home and workplace as did the "cottage" which was a buzz of activity in production of market goods. To compare the new homebased worker's environment to these may be to ignore important differences. First, the fields were not literally in the home as are the machines of today's crafters, computer terminals and other office equipment. Second, the work carried on by those former enterprises was not intellectually absorbing. The worker's mind was free to wander or to focus on other activities or diversions within the work environment. And third, the family farmer or cottage crafter of bygone days did not work in isolation. There was constant interaction with family members and customers who were continually milling about the home (Matters, 1983).

When the workplace moved to the centralized factory, the home became a refuge from physically or mentally exhausting work, a place to recharge or rejuvenate oneself. Alternating between home and workplace has been viewed as desirable, often stimulating creativity (Foegen, 1984). When the two overlap, the effect of leaving work behind is diminished. The temptation to work all the time may be problematic for the homeworker. The traditional worker can leave work at the office, but escape is not easy when the workplace is the home. A residential worksite may be the catalyst for a new type of workaholic and create more job-related stress (Tilly & Scott, 1978).

Housework burnout is said to have led many women into jobs outside the home. Homebased workers may find a new kind of burnout due to additional pressures. Not only can unmade beds and dirty dishes be seen as rebukes, but the dark computer screen, knitting machine or other office equipment may serve as a reminder of work that could or should be done. Pressure to produce could mount while children cry for attention. Income generation at home is likely to "be more attractive to self-disciplined, conscientious workers, the type most susceptible to stress and guilt feeling if work is seen but not done (The Wall Street Journal, November, 12, 1984).

The total influence of a worker at home upon members of the family and the quality of life can only be hypothesized at this time. The study of homebased work should begin with the recognition of the differences among workers, the individual family characteristics, the nature of the work being performed , and the work environment. The advantages and disadvantages of working at home may differ depending upon the aforementioned factors. The impact upon on the family may vary due to the interactions among these.

A TYPOLOGY FOR HOMEBASED WORK

A framework for a typology specific to homebased work can be used to measure the consequent satisfactions and quality of life for the homeworker and her family through differentiating among types of income production. To be completely reflective of the complex dynamics hypothesized to exist when the work site is in the home, the proposed typology includes four components of the work/family environment for homebased workers.

Figure 1 illustrates the interaction among the four components: worker/family characteristics, the type of work, the nature of the work, and the work environment. The determinants of the quality of life and satisfactions resulting from homebased

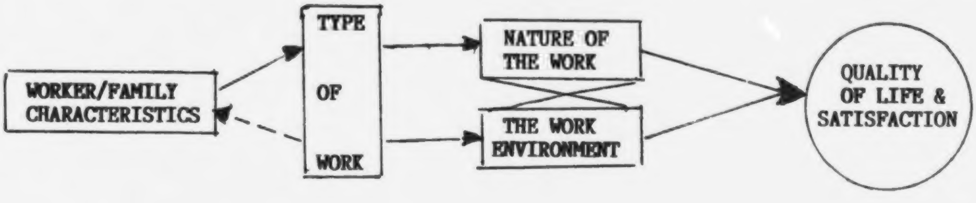

Figure 1: A typology to measure the effects of homebased work on family quality of life

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work, while a function of the type of work, are expected to be influenced by worker/family characteristics and moderated by an interaction of the nature of the work and the work environment.

The purpose of the typology framework is to measure the quality of life and satisfactions in a household where at least one member is a home based worker. The quality of life outcome might be represented as follows:

$$(1) \qquad Q/L = f\ (W_t, W_n, W_{env}, WFC)$$

where the quality of life outcome (Q/L) is a function of the type of work (W_t), the nature of the work (W_n), the work environment (W_{env}), and worker/family characteristics (WFC).

DEFINING AND DESCRIBING HOMEBASED WORKERS

Behr and Lazar (1983) identified more than 200 homebased industries and occupations. The wide range is due in part to the reasons behind the choice of occupation. The occupation may have evolved from a hobby or avocation, a need to increase income with few traditional labor alternatives available, or the home may be the customary base of operations for the occupation. The type of homebased occupation is expected to impact on the family's quality of life. However, the magnitude and direction of the impact will be moderated by the nature of the work, worker/family characteristics and the work environment. The relationship between the type of work and quality of life can be summarized by the following propositions:

P1: Occupations evolving from a hobby or avocation are likely to be associated with higher levels of job satisfaction for the homebased worker.

P2: Occupations selected primarily for their income generation potential are likely to be associated with lower levels of job satisfaction for the homebased worker.

P3: The occupational satisfaction of the individual homebased worker will be moderated by variables influencing work and interactions among the nature of the work, the work environment, and the worker's own and family characteristics.

P4: The occupational satisfaction of the homebased worker will be associated with the family unit's total satisfactions and quality of life.

Using Behr and Lazar's extensive listing , a schema describing five categories of homebased wxorkers' occupations was devised. These are sufficiently broad to enable the inclusion of the many diverse occupations identified as being home based. The five categories termed Homemaking Crafters, Income Enhancers, Telecommuters, Administrative/Professional and Creative/Designers are described in Table 1 and below.

TABLE 1: Classification of homebased workers

Category (Definition)	Examples of homebased workers
Homemaker/Crafter (evolving from household work)	Child care provider/babysitter Candy-maker, caterer Dressmaker/alterations Housekeeping/ cleaning service Knitter (machine)
Income Enhancer (supplementing household income)	Astrologer Cosmetics sales (e. g. Avon) Home-party demonstrator Typist or other clerical work
Telecommuter (utilizing computer technology)	Computer programmer/consultant New wave occupations utilizing telecommunications innovations Word processor working on piece or rate schedule
Administrative/ Professional (traditionally conducted from home)	Bookkeeper Creative entrepreneur Sales representative Insurance agent Architect Translator Writer
Creative/Designer	Apparel designer Artist: painter, sculptor Hand knitter Jewelry or craft designer

Homemaking Crafters include those engaged in occupations based on skills commonly practiced or used as a matter of course in a household. These have evolved from household work such as child care, food preparation, home sewing and general housekeeping. Their conversion to income generating occupations is based on enjoyment of the activity as well convenience. The crafter is expected to achieve heightened satisfaction from earning income while engaging in "household work."

Income Enhancers are those occupations promoted as a means of earning money while staying at home, and have never claimed to provide sufficient economic gains to be the sole support of a family unit. Because the worker is engaging in these endeavors soley for income generation, and because the income generated is likely to be low, job satisfaction is also expected to be low among these workers.

Telecommuters are those who use computer technology in the home. The skill level of these workers ranges from work processing to computer programming. It has been estimated that five million people will be telecommuters within ten years (Foegen, 1984). This type of occupation conducted in the home may culminate in feelings of isolation and hence these workers will experience lower levels of job satisfaction.

Administrative/Professionals are described as those who have traditionally used a home office for the conduct of business. For many, the client contact was primarily outside the home. This category includes many diverse occupations with different opportunities and constraints. The occupational satisfactions derived from these will be varied and will be impacted heavily by the nature of the work and work environment.

Creative/Designers are those whose occupations may border on a craft but possess a higher level of talent and/or training in an applied area. While they may be either self-employed or work on a contractual basis for a firm, the work is generally signed or otherwise acknowledged to be that of the artist. The freedom and feelings of control often associated with the advantages of homebased work are expected to be experienced most strongly by this category of workers and their resulting job satisfactions should be high.

IDENTIFICATION OF VARIABLES INFLUENCING WORK AND FAMILY INTERACTION

The effects of participation in the labor force by one or more members impacts upon the family unit. Variables endogenous to the nature of the work and dimensions of the work environment may have a profound effect on a family's daily routine as well as on the relationships among individual family members. The worker's orientation toward work and family, as well as the family's attitude toward her work and the individual family situation are variables which could add or detract from the quality of life for the family of a homebased worker. In addition, her own feelings about the work she does and the rewards gained from income production will necessarily pervade the home consequent quality of life for the family. (Table 2).

The set of variables expected to moderate the effects of work on the family unit are those related to the nature of work. Form of employment, skill level, location, and absorptiveness are factors in the nature of work. These variables intervene any occupation whether or not it is homebased. The elements of time, space, location, accessibility of the worker to family members, and the economic determinants of the work are environmental variables that have more potential for determining satisfaction and quality of life of the homebased worker.

WORKER/FAMILY CHARACTERISTICS

Role orientation describes the underlying rationale for which an individual chooses to work at home. It is a factor in the absorptiveness of the work, commitment to the profession or client group, and is a psychological factor endogenous to the individual worker. Role orientation might be expected to moderate and strongly influence homebased workers' perceptions of both the nature of the work and work environment.

For example, Beach (1985) indicated that family and work may be equally weighted by professional home based workers. The same may be true for crafters as attested by numerous home knitters during the FLSA hearings (Costello, 1987). Whether the paid labor is done at a work site or in the home there are rewards for the worker. The feelings of being a valued member of a productive society in addition to the amount of income derived from work create a positive influence upon the worker's attitude toward life in general. The personal satisfaction derived from the work also provides a reward. The amount of income earned relative to perceptions of economic worth determine the extent to which a worker would evaluate rewards.

Family demands are not mutually exclusive from role orientation. How much energy and time the worker must devote to family members during planned working hours can affect her ability to generation income and her attitude toward both her labor activities and her family. An underlying component of family demands, then, is stage in the family life cycle. Therefore, the cohesion and adaptability of the family becomes a factor. Are other family members flexible enough to adapt to changing demands in the worker's income generation activities? Do the family members feel they are part of the "enterprise" whether they actually partake in income generating activities or not. Worker family characteristics can be represented as follows:

$$WFC = f\ (RO,\ R,\ FD,\ CA) \qquad (2)$$

where the influence of the the individual worker and family characteristics on the quality of life (WFC) is a function of the worker's role orientation (RO), the rewards for the worker (R), the family demands on the worker (FD), and the family's level of cohesion and ability to adapt (CA).

TABLE 2: Variables associated with worker/family characteristics

Variable	Measurable Characteristic
Role Orientation	Work versus family emphasis Decision to choose homebased work: family versus other reasons
Rewards	Perception of own value as worker Satisfaction with work Satisfaction with family life
Family Demands	Hours/day devoted to family care versus income generating activity Age and number of children Health of family members
Cohesion & Adaptability	Family members score on cohesion and adaptability measure

The influence of worker/family characteristics can be summarized by the following propositions:

P5: When the family is subordinate to the work, the satisfactions of the total family unit are likely to be lower.

P6: When the work is subordinate to the family, the satisfactions of the family unit are likely to be higher.

P7: When the worker's preferred balance between work and family is disturbed, the work is likely to be less satisfied overall.

P8: When there is balance in the role orientation, satisfactions are likely to be maximized and a higher quality of life experienced for the worker and the total family unit.

P9: When the demands of family members are predictable or mesh with the work performed, the worker and her family are likely to experience greater satisfactions.

P10: When family members are able to adapt to changing conditions of the worker's income generating activities, the total family unit will experience higher levels of satisfaction

P11: When family members feel that their support is important to the worker and her success at income generation, there will be a greater level of satisfaction.

P12:: The worker's perception of adequacy of rewards for the homebased occupation will be positively associated with satisfaction from the work activity.

P13: The worker/family characteristics will affect the worker's perceptions of the nature of the work and the work environment.

NATURE OF THE WORK

As demonstrated by the schema above, there is a wide diversity in the in the types of work undertaken in the home. While some occupations are stimulating and creative, others are routine and repetitive. The manner in which homebased work affects family quality of life and satisfaction is hypothesized to be moderated by the nature of the homebased work. The nature of the work is composed of those attributes or characteristics associated with a given occupation that are essential to the production or distribution of the good or service. These include the type of employment, location, skill level, and absorptiveness (Table 3). The influence of these variables on the total satisfaction and quality of life may be summarized by the following propositions:

P14: When elements of the nature of the work constrain family interaction, satisfaction and perceived quality of life are expected to be lower.

P15: When the elements of the nature of the work foster family interaction and generate support and aid of family members, total family satisfaction and perceived quality of life will be enhanced.

P16: The influence of the elements of the nature of the work will interact with the type of work and be moderated by factors associated with the work environment.

Skill level is self explanatory and its sole influence on family satisfaction is minimal; employment, location, and absorptiveness, however, are more complex and require clarification beyond that found in Table 3.

Employment is a dichotomous variable which indicates whether an individual is an employee of a formal organization or is self-employed; it specifies the source of income. An employed person generates income by completing work received while the self-employed, in addition, is required to develop a market or client group for the goods or services produced. A self-employed person has control over the conditions of output and would be expected to enjoy the satisfactions resulting from this control, but this individual may alternatively experience more stress as a result of entrepreneurial requirements. Conversely the stress on the employed worker may be derived from the employers expectations for work quotas.

The location of the business based in the home may vary. In some cases the management and the labor will be carried on entirely in one area. In others the management and administration may be done in the home, with the actual contact with clients and/or completion of the work done elsewhere. Where the worker is required to leave the home at inopportune times, the influence would be negative. Conversely if children could accompany the parent to the work site, the resulting propinquious activity would contribute to higher levels of satisfaction.

TABLE 3: Variables associated with nature of the work

Variable	Measurable Characteristics
Employment	Self-employed versus employee Production & distribution in the home versus production only in the home Market development versus production only
Location	Production & management both done from the home Management in the home, work done or client contact away from home
Skill Level	Educational requirements Experience requirements Talent/expertise requirements
Absorptiveness	Level of concentration required Tolerance for distractions or interruptions while working Level of family involvement/commitment to thehomebased enterprise

Absorptiveness may be a factor associated with a very high demanding skill level. Kanter (1975) elaborated on the concept of absorptiveness:

> ......occupational pursuits that not only demand the maximum commitment of the work and define the context for family life, but also implicate other family members and command their direct participation in the work system in either its formal or informal aspects (Kanter, p.172).

Work that requires uninterrupted concentration would be said to be highly absorptive. Others in the workspace would be prohibited from distracting or interrupting the worker. Thus, highly absorptive occupations would be associated with lower levels of interpenetration between work and family and thereby constrain interaction.

To summarize, the nature of the work may be described as:

(3) $$W_n = f (E, L, S, A)$$

where the influence of the nature of homebased work on the family (W_n) is a function of the type of employment (E), amount of total work done in the home (L), worker's skills (S), and the absorptiveness of the task (A).

THE HOME/WORK ENVIRONMENT

A woman's decision to work at home modifies the home environment and pattern of living for all family members. It is hypothesized that factors within the home/work environment will influence family life. Where the work is performed, and how much time the woman must allocate to generate the required/desired income will necessarily pervade the home and family's quality of life (Table 4).

TABLE 4: Variables associated with the work environment

Variable	Measurable Characteristics
Time	Amount of time worked (minutes/hours) Patterns of work time (scheduling & sequencing of work Seasonable variations or adjustments Flexibility of work patterns Lifecycle variations in work patterns
Space	Separate or integrated with family activities Barriers to family interruptions
Economics	Actual income generated Perceived necessity of income generated Proportion of total family income

The work environment components are time, space, and economics. The influence of these variables on total satisfactions and family's quality of life may be summarized by the following propositions:

P17: The environmental constraints imposed on the worker as well as family members will be related to the total satisfaction and quality of life experienced by the family unit.

P18: The elements of the work environment will interact with the type of work, the nature of the work, and worker/family characteristics to moderate satisfaction and quality of life of the family unit.

Work time as a variable has many facets. The homebased worker has more control over the scheduling of her work time, including the number of hours worked, than does the traditional on-site worker. A homebased worker may arrange the time of work to be compatible with routines of other family members. With some types of occupations, however, scheduling flexibility may be restricted by client demands. Seasonal adjustments in time allocated to homebased work may be a result of conscious control, occupational necessity (e.g., construction), and/or a desire for flexibility. The sequencing, time and scheduling of household and family activities may be organized around homebased work. The choice of homebased work may reflect a commitment or priority by the worker to meeting the needs of the family, especially when family demands are high, such as when young children are present. The degree to which these aspects of time contribute to the homebased worker's control over her environment will moderate satisfaction with the work and family situation and will influence the family's quality of life.

Therefore, the complex variable of time (T) itself is a function of the amount of time the homebased worker labors during a given period (t_a), the scheduling of the work (t_c), seasonal work variations (T_{se}), and the flexibility of the work time (t_f).

(4) $$T = f (t_a, t_{sc}, t_{se}, t_f)$$

The dimension of space relates to using in the home for work activities. The allocation of space in the home specifically for work may reflect a separation of the spheres of work and family while the dual use of space may be indicative of high level of interpenetration between the two. The workspace may be a segment of a room, a separate room, a portion of the dwelling unit with its own entrance, or another building on the premises. Where the workspace is situated will determine to some extent the accessibility of the worker to other family members. Space that is in close proximity to other household activities may require either restricted access or barriers. The type of workspace required varies with the type of work and nature of the work, particularly its absorptiveness. Where little concentration is required, a segment of a room may be sufficient. Conversely, if the occupation is highly absorptive, it is essential that the workspace minimize interruptions by family members.

Economics refers to the financial gain from working in the home. The actual income generated and the proportion of total household income contributed by the homebased worker are part of this factor. The commitment to income generation, and therefore the actual amount generated, could be effected by the amount of time and energy the worker allocates to meet needs of family members. Furthermore, the worker's perception of the necessity of her income-generating efforts to the family's economic well being could also affect the effort put into labor. The apparent low economic compensation received by homebased workers has been one of the major sources of dissatisfaction with this work situation. Also affecting the economic rewards of at-home income generation is the amount of capital outlay required. Some homebased occupations require major investments in equipment, inventory, training, and possible licensing. The immediate effect of these start-up costs would be to reduce initial profits of the business.

The four components of the effect of economics (Ec) on the homebased worker and her family can be expressed as a function of the total income generated through the homebased work (i), the proportion of total household income generated by the homemaker (i_p), and the perceived necessity of the generated income (i_n), and the amount of capital investment (C).

(5) $$Ec = f\ (i,\ i_p,\ i_n,\ C)$$

The impact of the work environment on the homebased worker and her family may be expressed by the following model:

(6) $$W_{env} = f\ (T,\ S,\ Ec)$$

where T = time; S = space; and Ec = economics.

The variables associated with the work environment would interact with those the nature of the work and differentially affect and moderate the quality of life and satisfactions of families whose members are engaged in homebased occupations.

SUMMARY

A review of the literature on homebased work particularly that pertaining to women revealed a paucity of scholarly works on this alternative for income generation. With the mutliplicity of types of workers, the dissimilarities among homebased workers may be as great or greater than the differences between these and on-site workers.

An examination of previous research resulted in the identification of three categories for classifying variables that could be influential in determining the quality of life and satisfaction of homebased workers. These are the nature of the work, the work environment, and the worker/family characteristics.

Although current literature indicates that work in the home has a positive influence on the family and the worker, the reality of the situation has not been explored empirically. The dynamics of the work/family interactions have the potential for exerting a strong influence, not necessarily positive, on the well-being of the family.

The typology proposed can be used as a framework for investigative studies designed to examine the benefits and costs of working at home. Only following a series of empirical studies can the influence of homebased work be known. If the influence is positive, public policy initiatives might be directed to encourage homebased work though further legislative actions removing restrictions on homework. Educational programs might be designed to aid individuals interested in pursuing this type of income generation. The business community might be provided with tax incentives to encourage homebased work and unions might want to propose benefit packages for these workers. If the impact is decidedly negative for some homebased occupations, policies might be formulated to mitigate these effects.

Homebased work has been presented by many as a panacea for women's inability to maintain employment outside the home due to family care responsibilities. As few things in life are totally without tradeoffs, it is postulated that income generation in the home environment will have some impact, not necessarily positive, on the family's quality of life. The type of work undertaken, the amount of concentration demanded, the skill requirements, and the worker's allegiance to either family or work will all touch upon the family's life. As the intervening effect of these variables on different types of workers is unknown at the present time, it is only possible to hypothesize a typology for homebased work.

The numbers of women availing themselves of homebased work opportunities is unlikely to decline in the coming years. Decisions by new entrants and by policymakers can only be enhanced with insight into the interrelationships existing among occupation, worker, and family interests.

REFERENCES

Beach, Betty. (1985) Working at home: Family life/work life. Unpublished doctoral dissertation. The University of Connecticut.

Behr, M. & Lazar, W. (1983) Women working home - The homebased business guide and directory. New Jersey: WWH Press.

Bernard, Jessie. (1984). The good provider role: Its rise and fall. In P. Voydanoff (ed) Work & Family: Changing roles of men and women. Palo Alto, CA: Mayfield Publishing Company.

Blau, F. D. (1979) The data on women workers, past, present, and future. In Stromberg, A. H., & Harkess, S. (Eds.). Women working - theories and facts in perspective. Palo Alto, CA: Mayfield Publishing Co.

Costello, C. B. (1987) Home-Based employment: Implications for working women. Washington, D.C.: Women's Research & Education Institute.

Foegen, J. R. (1984) Telecommunting: New sweatshop at home computer terminal? Business and Society Review, (fall): 55-95.

Gillis, P. (1984) Entrepreneurial mothers. New York: Rawson Associates.

Hershey, B. (1985) How women feel about working at home, Family Circle (November 5): 70-74.

High technology employment outlook. (1985) The New York Times, Special section, (March 24).

Homework (1984, December 10). Fortune, 10.

Horvath, Francis W. (1986) Work at home: New findings from the Current Population Survey. Monthly Labor Review, 109 (11): 31-35.

Kahn-Hut R., Daniels, A. K., & Colvard, R. (1982) *Women and work: Problems and Perspectives*. New York: Oxford University Press.

Kanter, R. (1977) *Work and family in the United States: A critical review and agenda for research and policy*. New York: Russell Sage Foundation.

Plous, F. K., Jr. (1982) Working at home appeals to a few. Unions and others foresee problems. *World of Work Report* 33 (May): 35-37.

Tilly, L. A., & Scott, J. W. (1978) *Women, work & family*. New York: Holt, Rinehart & Winston.

Tip of the ski cap: Labor department's decision on home labor. (1985) *The Wall Street Journal*. (November 12) 24.

U.S. Department of Labor. (1983) *Time of Change: 1983 handbook on women workers*. Bulletin 298 Washington, D. C.: U.S. Government Printing Office.

CHILD SUPPORT AND THE FEMINIZATION OF POVERTY

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After documenting the growth in female-headed single-parent families, this paper relates their economic and poverty status to the absence of child support payments. It then presents an overview of child support payments in the U.S., followed by a discussion and evaluation of the child support enforcement system. Finally, it considers two alternative child support systems, as well as a comprehensive program for reducing poverty among female-headed single-parent families.

INTRODUCTION

U.S. families are undergoing a major transition: they are changing in form from predominantly two-parent to single-parent families, usually headed by a woman. Female-headed single-parent families now comprise 19 percent of all families with children under 18 present, an increase of 9 percentage points since 1970 (U.S. Bureau of the Census 1984, p. 7). The consequences of this transition are of particular concern when we consider that if recent trends continue, six out of every ten children born today will spend some time living in a single-parent family (Norton and Glick 1986). For black children, this proportion approaches nine out of ten (Garfinkel and McLanahan 1986, p. 8). The female-headed single-parent family is a source of stress because such families are likely to exist at relatively low levels of economic well-being. Moreover, this type of family makes up a disproportionately large share of the population living in poverty, a fact which has led to the arrival of the expression "the feminization of poverty" (Pearce 1978). An important option for support to single-parent families are child support payments.

This paper will focus on the following topics: (1) the sources of growth in female-headed single-parent families and their economic status; (2) the situation regarding child support payments in the U.S. today, both in terms of levels and trends; (3) the child support enforcement system as it presently stands in the U.S., its problems and its potential for reducing poverty and welfare dependency; and (4) two alternative systems of child support. It will conclude by suggesting a more comprehensive system for reducing poverty.

Female-Headed Single-Parent Families: Growth and Economic Status

The growth of the single-parent family comes from increases in divorce rates and in the rate of children born out-of-wedlock. The rate of divorce increased annually from 2.2 divorces per 1000 total population in 1962 to a peak of 5.3 per 1000 population in 1981. The rate has dropped slightly since then, but the U.S. still has the highest divorce rate in the world.[3] As for illegitimacy, roughly one in five births in 1984 were to unmarried mothers, nearly triple the rate of the mid-1960s (U.S. Bureau of the Census 1986, p. 61). Of female-headed single-parent families, divorced and separated mothers form around two-thirds of the population, while never-married mothers form around one-fifth (U.S. Bureau of the Census 1984, p. 7). One should realize that many divorced and separated mothers eventually do remarry resulting in substantial improvement in their family's economic well-being. However, proposing remarriage is not exactly a suitable public policy treatment for the feminization of poverty, nor does it excuse a man from the obligation to support his children.

It has become widely recognized that the economic well-being of women and children deteriorates substantially following a divorce, while that of men tends to increase. According to popularly cited figures from a study by Lenore Weitzman (1985), after divorce, income in relation to needs decreases 73 percent for women and children, but increases 42 percent for men.[4] Many of these women and children fall into poverty.

The incidence of poverty is far greater among single-parent families headed by women than among other types of families.[5] Of the 8.8 million women with children present and father absent in 1985, 2.8 million had incomes below the poverty level.[6] Of the 3 million who were divorced, 26 percent had incomes below the poverty level (U.S. Bureau of the Census 1987, p. 5).

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[3] Sources for these figures are table 2-1 (U.S. Department of Health and Human Services 1986, pp. 2-5) for the period 1962 to 1982, and table No. 124 (U.S. Bureau of the Census 1986, p. 81) for 1983.

[4] See figure 3 (Weitzman 1985, p. 338) for more detail. This figure is based upon a weighted sample of interviews with 228 recently divorced men and women (114 men and 114 women) in Los Angeles County, California in 1978. The sample was selected to be representative of the entire population of divorced people, stratified by length of marriage and socioeconomic status (Weitzman 1985, pp. 407-411).

Why are families headed by women so likely to fall into poverty? The reasons concern family size, the smaller earned incomes of women with respect to men, and the failure of men to contribute to the support of their children. Family size plays a role when after divorce, women typically get custody of the children. Thus, their incomes must be spread over more people than the man's.

Through 1979, women working full-time earned roughly 62 percent of what men earned. Recent statistics (second quarter 1987) show this female-to-male earnings ratio reaching a new high of 71 percent (U.S. Bureau of Labor Statistics 1987). Even at these increased levels, if the woman and her children have to rely solely on her earnings, they would be substantially worse off than the man. This is because her earnings are lower and she has more mouths to feed. Of equal concern is the question of the children and related costs. If the mother works full-time, expenses for child care reduce her income still further, placing her and the children at an even lower level of economic well-being relative to him.

Many absent fathers do not contribute to the support of their children, leaving this task instead to the woman and/or to the state.[7] Surprisingly, many women do not even have a child support award; among those that do, a high proportion do not receive payment.[8] According to a recent survey, although over one-third of the 3.4 million women who did not have a child support award did not want one, nearly half said they wanted but were unable to obtain one (U.S. Bureau of the Census 1987, p. 3).

The absence of child support is a significant contributing factor to the relatively low level of living of women and their children. The poverty rate in 1985 for women who did not have a child support award was 49 percent; for those who did, it was 21 percent. Among those women awarded child support, the poverty rate was 18 percent if they received payments and 27 percent if they did not (U.S. Bureau of the Census 1987, p. 11). Among women below poverty level with children from an absent father about 40 percent had a child support award, whereas among women above the poverty line, 71 percent had an award (U.S. Bureau of the Census 1987, p. 5). These figures suggest that securing more child support from absent fathers should help to alleviate poverty among single-parent families.

Child Support Payments in the U.S.

Interest in improving the nation's child support enforcement system is at an all-time high for several reasons. These include (1) alarming statistics on nonpayment rates, (2) the priority placed by the current administration on reducing the welfare rolls, and (3) current social emphasis on the role of the family. One, in 1980, the Census Bureau released alarming statistics on nonpayment rates (U.S. Bureau of the Census 1980). These statistics showed that in 1979 only 59 percent of mothers with children from an absent father had a child support award. Among those with an award and due payment in 1978, only about half received full payment. About one-quarter received partial payment, and one-quarter received no payment at all. Moreover, payments that were made were often irregular. The average annual amount of child support received among those who received some was only $1800 for an average of almost two children (U.S. Bureau of the Census 1981, p. 5).

The situation was considerably worse than average among black mothers and never-married mothers. Only about one-third of black mothers had a child support award and among those that did, the award amount was about 18 percent lower than for nonblacks (Beller and Graham 1986). Only 11 percent of never-married mothers had an award. Award amounts were less than half as much as for divorced mothers (Beller and Graham 1986).

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[5] This point is discussed extensively in two recent books (McLanahan and Garfinkel 1986 and Rodgers, Jr. 1986).

[6] The poverty level is that level of income below which it is deemed that a family does not have enough money to maintain a decent level of living. The poverty level was $11,200 for a family of 4 in 1987.

[7] It is not known to what extent absent mothers do not contribute to the support of their children. The absence of data on this situation reflects the fact that single-parent families headed by men are a relatively rare phenomenon. Moreover, they are much less likely than single-parent families headed by women to fall into poverty due to the fact that men typically earn much more than women. Thus, even if there is a problem of this nature, it does not arouse as much social concern. Nevertheless, all discussions pertaining to enforcement of child support payments can be thought of as applying to absent mothers as well as to absent fathers.

[8] All women with children from an absent father are eligible for a child support award. Once an award is either voluntarily agreed to or court-ordered, there is still a question of whether the woman receives payment. There are two reasons why she may not: one is that she is not due payment in a particular year because, for example, the child is too old, and the other is that although she is due payment, the father doesn't pay.

Two, the Reagan Administration places a high priority on reducing the welfare rolls. Getting absent fathers to support their children is seen as one means of accomplishing this goal. Finally, current social emphasis on the role of the family and the place of private rather than public transfers has facilitated this becoming a nonpartisan issue.

Trends in Payments

We analyzed trends in child support through 1986 based upon three more Census surveys comparable to the one in 1979. The data on trends in award rates, recipiency rates (the proportion of women due child support who received something), and the amounts received show a mixed picture.

While the child support award rate remained reasonably constant at around 59 percent from 1979 to 1984, it rose to 61 percent in 1986 (U.S. Bureau of the Census 1985a; 1987). This suggests that the likelihood of being awarded child support increased from 1984 to 1986. Indeed, the award rate rose for all racial and all marital status groups over this period (U.S. Bureau of the Census 1985a; 1987). Interestingly, groups with the lowest award rates appear to have made the most progress over the entire period. Among blacks, the award rate increased continuously from 29 percent in 1979 to 36 percent in 1986. It also increased continuously among the never-married from 11 to 18 percent (U.S. Bureau of the Census 1981; 1985a; 1985b; 1987). In disaggregated analyses, Beller and Graham (1986) found that the trend toward a greater prevalence of child support awards had been going on throughout the 1960s and 1970s, and had always been stronger among blacks than among nonblacks.

By sharp contrast to the increase in the award rate, the recipiency rate appears to have declined between 1983 and 1985. The proportion of women who actually received payment in 1985, 74 percent, was down slightly from the 76 percent who had received payment in 1983, although it was still higher than the 72 percent who had received payment in 1978 and 1981 (U.S. Bureau of the Census 1987; 1985b; 1985a; 1981). Again, there are racial differences. The steady increase in award rates among blacks has been accompanied by a steady increase in recipiency rates; these rates rose from 63 percent in 1978 to 72 percent in 1985. Among the never-married, recipiency rates rose steadily beginning in 1981 through 1985 (U.S. Bureau of the Census 1985a; 1985b; 1987).[9]

Along with the decline in the rate of receipt came a decline of 12 percent in the mean amount of child support received (among women who received some) in constant dollars between 1983 and 1985 (U.S. Bureau of the Census 1987, p. 4). This was viewed as disappointing because it followed a period of constancy between 1981 and 1983, and was deemed significant enough to warrant national headlines. The New York Times of August 23, 1987 quoted Nancy Ebb of the Children's Defense Fund as saying in reference to the decline in child support amounts, "That's certainly disheartening." The article also quoted the Census Bureau's expert on the data, Ruth Sanders, in saying that the Census Bureau did not know why the decline occurred (The New York Times 1987). Payments corrected for inflation had also declined by 16 percent between 1978 and 1981 (U.S. Bureau of the Census 1985b, p. 2). That earlier decline was not terribly surprising because it occurred during a period of extremely high inflation (the Consumer Price Index rose about 40 percent), but inflation was much lower between 1983 and 1985, only about 7 percent. [During a period of high inflation, the value of child support awards made in earlier years declines because they typically do not have automatic adjustment clauses in them (Krause 1981). What is surprising is that the real value of new child support awards also decreased between 1978 and 1981 even more than the value of old awards (Beller and Graham 1986, p. 241).]

One possible explanation for the recent decline in child support received is a change in the composition of the population of men with child support obligations. Since the award rate increased between 1983 and 1985, men with smaller incomes may have been added to the population owing child support. Their corresponding smaller payments would tend to reduce the average amount received. However, the award rate increased among both whites and blacks, while real child support payments fell only among whites (U.S. Bureau of the Census 1987, p. 4). Thus, no simple explanation appears evident. Further research on the reasons for the real decline in child support is needed; the work by Beller and Graham (in press) is a start in this direction.

Aside from the obvious, what benefits can be expected from the receipt of child support; in other words, why the concern about increasing its receipt? First, there is the possibility of a reduction in poverty and welfare dependency for the family. Second, according to one study, fathers who pay child support have more contact with their children (Chambers 1979, pp. 127-128). Increased parental contact is associated with greater educational attainment in children (see, for example, Krein and Beller in press). Third, women who receive child support income tend to have higher incomes from other sources as well. Such women are more likely to be in the labor force and work longer hours than women who do not receive child support, although causality in this relationship has not been fully untangled.[10] Thus, considerable economic and social benefits may be gained by increased receipt of child support. Benefits are likely to accrue not only to mothers and children but also to the federal and state governments in the form of savings from Aid to Families with Dependent Children (AFDC) and other welfare programs.

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[9] The rate, however, fell substantially between 1978 and 1981 and by 1985 had not regained the initial levels (U.S. Bureau of the Census 1981).

Child Support Enforcement

What is the nature of our system for enforcing child support obligations? It is basically a state system, whereby each state has its own set of laws stipulating various techniques to enforce child support obligations. Federal initiatives to establish a national enforcement program began in 1975 with the passage of Title IV-D of the Social Security Act. Prior to that date, it was believed that states were not doing an effective job of enforcing child-support obligations (Katz 1983). Title IV-D established the Office of Child Support Enforcement to administer the nationwide child support enforcement (CSE) program and a federal Parent Locator Service. It required each state to develop a CSE program to assist in establishing paternity, locating absent parents, establishing obligations for child support, and enforcing such obligations. Since 1975, many states have enacted new child support laws.

As we have seen, many women do not receive the child support to which they are entitled. In our opinion, this is due in part to several problems with our child support enforcement system. First, the whole burden of obtaining and enforcing an award rests on the woman. Child support is not viewed as her right, but rather as something for which she must fight. In the past, if the man did not pay, the woman had to go back to court. This means she had to take time off from work in addition to paying an attorney unless (after 1975) she used the state IV-D office. Second, there are a number of ways that absent fathers can escape their obligations. In the past, moving to another state, especially one with weak laws, was an effective means of escaping one's obligation. Now, it is less foolproof, but enforcing interstate obligations is still difficult. One way to escape a large award is by hiding income in self-employment. Additionally, unemployed men and men who change jobs frequently pose a particular problem for collection officials. Third, our system is anything but uniform, with individual judges making their own decisions on a case-by-case basis. Awards tend to be very small in proportion to men's income, an average of 13 percent in 1978-1983 (U.S. Bureau of the Census 1985b, p. 2), and the proportion tends to decrease as income rises (Weitzman 1985, p. 266). Fourth, if a woman is on welfare (or on the borderline) she has no incentive whatsoever to try to track down the man or get him to pay. This is because any income she receives (including child support) is taxed dollar for dollar by the welfare system. In other words, for each dollar of child support a woman receives, she loses a dollar of welfare, so she and her children are no better off. If the man is being helpful in nonpecuniary ways or even providing income-in-kind such as groceries or taking the kid to the baseball game, we question why the woman would want to pursue him with the law and perhaps even get him thrown in jail.

To strengthen the nation's CSE system, in August 1984, Congress passed and President Reagan signed into law the Child Support Enforcement Amendments of 1984, which came into effect in 1985 and 1986. They require all states to (1) withhold wages automatically when support payments are overdue; (2) use expedited legal processes, such as administrative procedures, for obtaining and enforcing support orders; (3) provide for the collection of overdue support by intercepting state income tax refunds; (4) initiate a process for imposing liens against real and personal property; (5) maintain procedures for requiring security, bond or other guarantee of payment; and (6) establish statewide advisory guidelines for child support award amounts. In addition, incentives are created to foster interstate enforcement.

The 1984 amendments should help to alleviate some, but not all, of the problems with the current system. First, automatic wage withholding begins if payment falls behind by one month, eliminating the need for the woman to return to court. Second, expedited legal processes allow child support awards to be established and enforced without going in front of a judge.

How effective can we expect these new state laws to be? One way to determine this is to evaluate the effectiveness of similar laws already on the books. In a study of the effects of 1981 state laws, Beller and Graham (1987) found that liens and administrative procedures were effective at increasing child support receipts. Laws for the mandatory and automatic withholding of wages in effect for at least three years were also found effective, but only moderately so. The authors have concluded that federal officials need to realize that the passage of state laws alone does not guarantee their effective enforcement. Although these amendments are certainly promising, on the basis of past experience we are not optimistic that they will revolutionize child support in America.

What is the potential of this present system for reducing welfare dependency? In a study which simulates its effects on welfare dependency, Robins (1986) found the present system's potential for reducing welfare dependency (i.e., the AFDC participation rate) and the poverty rate to be minimal:

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[10] For an attempt to untangle cause and effect, see Graham and Beller (1986).

> Part of the reason for such a relatively small impact of child support enforcement . . . is probably low child support award amounts, particularly among AFDC recipients. . . . Higher award amounts and/or other sources of income (principally greater earnings) are necessary (Robins 1986, p. 786).

However, Robins did find that child support policies could reduce AFDC costs significantly. By providing "the full range of services to all AFDC families," child support agencies could recover 15 to 16 percent of AFDC costs. If, in addition, child support obligations were established for all AFDC mothers and all obligations were fully enforced (i.e., full payment received), nearly 50 percent of AFDC benefits now paid could be recovered. According to Robins (1986, p. 786), "These findings suggest that a successful system of mandatory withholding coupled with greater efforts to establish obligations could recover somewhere between 15 and 20 percent of AFDC benefits." However, he concluded, ". . . even with higher award amounts, it does not appear likely that child support enforcement would have a dramatic effect on reducing the economic insecurity facing many single-parent families" (Robins 1986, p. 786).

Alternative Systems of Child Support

If the current system has minimal potential for reducing poverty, are there any other alternatives? Two we would like to mention are: the system currently being tested in the State of Wisconsin, and the system in effect in Hungary, which the first author learned about in discussions with a colleague on a visit there last summer (Kamarás 1987).[11]

The child support assurance system, presently being demonstrated and evaluated in Wisconsin, is based upon a model developed by Garfinkel of the Institute for Research on Poverty at the University of Wisconsin. That system provides payments to all women with children from an absent father. A woman is guaranteed a minimum payment even if her absent counterpart does not pay in that amount. The state collects the child support from absent fathers by withholding it from wages and other sources of income. Obligations are determined by a simple legislated formula: 17 percent of the noncustodial parents' gross income for one child; 25 percent, 29 percent, 31 percent, and 34 percent, respectively, for two, three, four, and five or more children (Garfinkel and McLanahan 1986, p. 176).

It was surprising to find that Hungary had a very structured and apparently effective system of child support in place. The woman can request wage withholding at divorce or at a later date, if the man does not pay. The proportion of the man's income that goes to child support is legislated and is quite high by U.S. standards: 20 percent of his income for one child, 40 percent for two children and 50 percent for three or more children. The woman also gets the dwelling, and dwellings are very hard to come by in Hungary. (One hears that there is a 15-year wait.) According to Mr. Kamarás, sometimes the man must go back and live with his parents, and often he cannot afford to remarry. When Mr. Kamarás was asked why women appeared to do so well relative to men after a divorce, he said that the most important consideration in Hungary had been the interest of the child. What does that say about us? Where do we place the interest of the child? When it was explained to Mr. Kamarás that in the U.S., men have found various ways to escape their child support obligations, including moving to another state, both he and the (female) interpreter expressed surprise. He said, "But don't you have to register with the police when you move to another state?" Perhaps we should try such a system!

While the Hungarian system is apparently very effective for women and children, it appears to cause some not inconsiderable hardship among men. Moreover, when a marriage market is regulated, it can cause certain distortions. For example, remarriage rates are low in Hungary. Men are probably hesitant about marrying in the first place and are probably more likely to use birth control methods.

In all probability, the Hungarian system would not be acceptable here, but it should certainly be viewed as a model of one that appears to work, at least for the women and children.

Only time will tell how successful the Wisconsin system is. How that system appears to be effective is through eliminating the uncertainty associated with late and irregular payments and removing the burden of tracking down an unresponsive father from the woman. But, it is unlikely that such a system would be able to transfer enough money to women who head families in all parts of our country to bring them out of poverty and keep them from needing welfare. Garfinkel and McLanahan (1986, p. 176) estimate "that such a program could reduce the poverty gap among American families potentially eligible for child support nearly 40 percent and would reduce AFDC caseloads by nearly 50 percent."

Garfinkel and McLanahan's speculations and Robins' estimates lead to the inevitable conclusion that eliminating, or even substantially reducing, the feminization of poverty requires that we do more than just improve the child support system. We must continue our efforts to increase women's earnings, to help women make the transition from working in the home to working for pay in the market, and to implement a better system of quality child care at affordable prices.

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[11] Mr. Kamarás is Deputy Chief, Population Statistics Section, Hungarian Central Statistical Office, Budapest, Hungary.

In her new book, The Economic Emergence of Women, Barbara Bergmann (1986) proposes such a comprehensive system. Her proposal includes the method for overhauling the child support system proposed by Garfinkel, combined with a system of unemployment insurance for single-parents. Such insurance would allow them a period of support while looking for their first job to help facilitate their transition from home to market. Bergmann also emphasizes the importance of improving women's earnings for which she advocates pay equity. "In recognition of the special burdens of single parents," she also recommends, "a system of excellent, highly subsidized child care, and a system of free medical care. . ." for the children (Bergmann 1986, p. 253).

CONCLUSION

In conclusion, we have determined that while, at present, child support is limited by not enough awards being made and infrequent payments, getting all existing obligations fully paid and establishing awards for women without them will not eliminate the feminization of poverty, largely because award amounts are low. It can, however, reduce the costs of AFDC by a substantial amount. Only a complete overhaul of the present system could substantially reduce the economic insecurity facing many female-headed single-parent families. Rather, we must proceed on a number of fronts. Of utmost priority is to continue our efforts to increase women's earnings. One way of doing this is by continuing to open job opportunities in the traditionally male-dominated occupations. In addition, we must provide a decent system of child care at affordable prices. Related to this goal, parental leave on the birth of a new child would also be helpful. A bill proposing such leave (S.249) is presently before Congress. As we can see, no single program can solve the entire problem of the feminization of poverty. Multiple program efforts must be pursued.

REFERENCES

Beller, Andrea H. and John W. Graham (1986), "Child Support Awards: Differentials and Trends by Race and Marital Status," Demography, 23 (No. 2; May): 231-45.

_________ (1987), "The Effect of Child Support Enforcement on Child Support Payments," Paper presented at the annual meeting of the American Sociological Association, Chicago, August 1987.

_________ (in press), "Child Support Payments: Evidence from Repeated Cross-Sections," American Economic Review.

Bergmann, Barbara R. (1986), The Economic Emergence of Women, New York: Basic Books, Inc.

Chambers, David L. (1979), Making Fathers Pay, Chicago: The University of Chicago Press.

Garfinkel, Irwin and Sara S. McLanahan (1986), Single Mothers and Their Children, Washington, D.C.: The Urban Institute.

Graham, John W. and Andrea H. Beller (1986), "The Effect of Child Support Payments on the Labor Supply of Female Family Heads," Unpublished paper, University of Illinois at Urbana-Champaign.

Kamarás, Ferenc (1987), "Interview with author (A. H. Beller), Budapest, Hungary, 24 July 1987.

Katz, Sanford N. (1983), "A Historical Perspective on Child-Support Laws in the United States," Judith Cassetty (Ed.), The Parental Child-Support Obligation, Lexington: Lexington Books.

Krause, Harry D. (1981), Child Support in America, Charlottesville: The Michie Company.

Krein, Sheila F. and Andrea H. Beller (in press), "Educational Attainment of Children from Single-Parent Families: Differences by Exposure, Gender and Race," Demography.

The New York Times (1987), "Average Child Support Payment Drops by 12 Percent," August 23, 1987, p. 26.

Norton, Arthur J. and Paul C. Glick (1986), "One Parent Families: A Social and Economic Profile," Family Relations, 35 (No. 1; January): 9-17.

Pearce, Diane (1978), "The Feminization of Poverty: Women, Work and Welfare," The Urban and Social Change Review, 11 (No. 1; February): 28-36.

Robins, Philip K. (1986), "Child Support, Welfare Dependency, and Poverty," The American Economic Review, 76 (No. 4; September): 768-88.

Rodgers, Jr., Harrell R. (1986), Poor Women, Poor Families, New York: M. E. Sharpe, Inc.

U.S. Bureau of Labor Statistics (1987), "Usual Weekly Earnings of Wage and Salary Workers: Second Quarter 1987," News (USDL 87-327), Washington, D.C.: GPO.

U.S. Bureau of the Census (1980), Current Population Reports, Special Studies, Series P-23, No. 106, Child Support and Alimony: 1978 (Advance Report), Washington, D.C.: GPO.

_________ (1981), Current Population Reports, Special Studies, Series P-23, No. 112, Child

Support and Alimony: 1978, Washington, D.C.: GPO.

________ (1984), Current Population Reports, Series P-20, No. 388, *Household and Family Characteristics: March 1983*, Washington, D.C.: GPO.

________ (1985a), Current Population Reports, Series P-23, No. 140, *Child Support and Alimony: 1981*, Washington, D.C.: GPO.

________ (1985b), Current Population Reports, Series P-23, No. 141, *Child Support and Alimony: 1983*, Washington, D.C.: GPO.

________ (1986), *Statistical Abstracts of the United States: 1987*. Washington, D.C.: GPO.

________ (1987), Current Population Reports, Special Studies, Series P-23, No. 152, *Child Support and Alimony: 1985 (Advance data from March-April 1986 Current Population Surveys*, Washington, D.C.: GPO.

U.S. Department of Health and Human Services (1986), *Vital Statistics of the United States, 1982*, Vol. III, Marriage and Divorce, Washington, D.C.: GPO.

Weitzman, Lenore J. (1985), *The Divorce Revolution*, New York: The Free Press.

Time As A Direct Source of Utility: The Case of Price Information Search

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A 'joint production' model of price information search that combines aspects of both household production and the economics of information is formulated. Enjoyment of search time is incorporated into the model. Findings indicate that enjoyment is a major factor in explaining variations in time spent in price information search in dual earner households.

Dual earner households face an increase in the price of their time due to labor market activity. These households might choose not to engage in time intensive household activities such as price information search. Evidence indicates, however, that working wives do use price information search strategies (Kaitz 1978; Hacklander 1978). In order to explain the variation in time spent in price information search by dual earner households, a model is formulated that integrates household production theory, the economics of information, and the assertion that time may yield utility directly. The resulting 'joint production' model of price information search is not so much a replacement of either the traditional household production or search models as it is an extension which provides more information and insight into the search behavior of dual earners.

The possibility that consumers consider search time a form of leisure has been suggested in the literature, but has never been formally modelled (Wilkie & Dickson 1980; Juster & Dow 1980). Economic studies that examined the demand for search time, but did not consider the utility value of time, found that increases in the price of a woman's time may increase or decrease time spent in search. These studies, however, have provided insight into taste and productivity shifters, and family size factors that affect the amount of time spent in search. These include education, age, and presence of children (Doti & Sharir 1981; Carlson & Geiseke 1983). In addition, presence of time saving durables have been found to affect time allocation in households (Strober & Weinberg 1980).

A JOINT PRODUCTION MODEL OF PRICE INFORMATION SEARCH

Two frameworks are useful when examining the relationships among increases in dual earner households, enjoyment of search time and time spent in searching for lower prices. Household production theory, which has its roots in Becker's, "A Theory of the Allocation of Time" (1965), identifies three uses of the time resource. Time can be spent in leisure, in household production, or in market work. When time is combined with purchased inputs to produce commodities, satisfaction is increased. Satisfaction is highest when the greatest number of commodities possible are produced using available time and purchased inputs.

In George Stigler's (1961) seminal article on the economics of information, consumers search for lower prices by utilizing time and purchased inputs, such as food advertisements in newspapers, to locate lower food prices. This results in increased purchasing power that is equivalent to an increase in money income. Time is a major input into producing price information and its effectiveness may vary across households with differential costs of time.

A 'joint production' model that uses a household production framework and includes search time as a direct source of utility can be illustrated using by imposing weak separability on a utility function and focusing on two home produced goods: meals and price information[2]. The following Lagrangian function is used to maximize such a utility function.

$$(1) \quad L = U\{Go(Xo_i, Ho; k), Hs; P\} + \lambda\{w(H^* - Ho - Hs) + v^* - \sum_{i=1}^{N} Po_i(Xs, Hs; PD)Xo_i - PsXs\}$$

where

U = Total utility
Go = Meals produced with goods and time
Xo_i = Direct inputs to produce Go, i=1,2,..,N
Ho = Time inputs used producing Go
k = A vector of environmental variables
Hs = Time spent in price search
P = A vector of preference shifters
w = The market wage rate of the shopper
H^* = H-Hp
H = Total available time
Hp = Pre-allocated household production time
v^* = v-PpXp
v = Total non-wage income
PpXp = Pre-allocated expenditures
Po_i = Price of the ith direct input used in meal production
Xs = Purchased inputs used in price information search
PD = price dispersion
Ps = Price of purchased inputs used in price information search

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[2] Assuming a consumer's preferences provide a natural structuring for choice allows a sub-utility function for meals to be written within a utility function that defines all commodities.

The joint production model of price information search differs from the traditional household production and price informtion search models in two ways. First, time spent in price information search is a direct source of utility for consumers. Thus, time spent in search is found in a consumer's utility function. Second, if consumers search for price information, the price they pay for direct inputs used in meal production depends on how much they search. These prices are a function of the information produced. And, because information is produced using time and direct inputs, given the market price distribution, it can be considered a home produced good. The price function for direct inputs used in meal production is written

$$(2) \quad Po_i = Po_i(Xs, Hs; PD); \; i=1,2,\ldots,N$$

The prices paid for purchased inputs into meal production decrease at a decreasing rate as time or purchased inputs used to produce information increase.

Search is a relatively time intensive activity. For every purchase of inputs such as a newspaper or the cost of transportation necessary to comparison shop, a consumer must also spend time interpreting what is written and must take the time to travel to stores in order to obtain savings. Without time spent processing written information or actually locating a lower price, the purchase of direct inputs are virtually useless. Since intensity of input use in a production activity is determined by the relative productivity of the respective inputs, it follows that the absolute value of the marginal price reductions from increasing time inputs by one unit are greater than the marginal price reduction from increasing purchased inputs by an additional unit.

The second derivatives of the price function with respect to both time and purchased inputs must also be negative. If not, savings could increase infinitely and a consumer would use all resources to obtain price reductions.

If an equilibrium is to be reached, the marginal benefits obtained from search time must equal the marginal costs of obtaining the benefits. Examination of the first order condition for search time, calculated by taking the first derivative of the Lagrangian function with respect to search time gives

$$(3) \quad \frac{\frac{\partial U}{\partial Hs}}{\lambda} - Xo_i \frac{\partial Po_i}{\partial Hs} = w; \; i=1,2,\ldots,N$$

The additional term to consider is the marginal utility obtained directly from time spent in price information search[3]. The term from which marginal savings are subtracted in equation (3) can be expressed

$$(4) \quad \frac{\frac{\Delta utils}{\Delta \text{ in hours of search}}}{\frac{\Delta utils}{\Delta dollar}} \quad \text{or} \quad \Delta\$/\Delta Hs$$

where \$ = dollars.

This is interpreted as the value of the marginal utility of search time when search time yields utility directly. Literally, it is the change in the value of utility obtained when a consumer engages in an additional unit of search time. Equation (4) illustrates that the marginal utility obtained from search time depends on the marginal utility obtained from money.

The following hypotheses can be formulated based on maximization of the joint production model of price information search and previous empirical findings:

H1. Increases in enjoyment of time spent in price information search will increase time spent in search.

H2. An increase in the own price of search time will decrease the demand for search time and will depend on both the wage rate and total marginal savings available from search.

H3. Search time and home production time are substitutes.

DATA

The model is tested using convenience food grocery expenditure data[4]. There is little doubt that substantial savings on groceries may be obtained through price information search. First, imperfections in consumer knowledge can support a distribution of prices in a market (Stigler 1961; Telser 1973; Gastworth 1976; Salop & Stiglitz 1977; Maynes & Assum 1982). Second, food suppliers have responded to continuing increases in female labor supply by increasing the number and price ranges of food products offered for sale and offering discounts on products through use of promotional campaigns (Bellizzi et al. 1981; Gallo 1982). Third, price dispersion can exist because the structure of the food industry can not be described as perfectly competitive (Collins & Preston 1968; Greig 1976; Conner et al. 1985).

The data were collected from a random sample drawn from Onondaga County, New York during June through September, 1986. To be eligible to take part in the survey, two criteria were necessary: that the household contacted have

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[3] Alternatively, (3) can be expressed

$$w + Xo_i \frac{\partial Po_i}{\partial Hs} = \frac{\frac{\partial U}{\partial Hs}}{\lambda_i}.$$

[4] Convenience foods consist of frozen and canned fruits and vegetables, dry mixes, prepared soups and sauces, cold and instant cereals, bakery products, boned, skinned, canned, or cooked meats, and frozen entrees. This definition was adapted from those used in previous research (Traub & Odland 1978; Pepper 1980).

two adults employed in the labor market and that the respondent be the major grocery shopper in the household. Considered a population in itself, inferences can be made about this particular market segment. A combination telephone and mail survey yielded 95 complete responses for a response rate of 30 percent.

A comparison of the latest statistics available on dual earner households in the United States and the Onondaga County data identified biases which may result if an analysis is performed using an unrepresentative sample (U.S. Bureau of the Census 1986). Results indicated that the Onondaga County sample slightly under-represents traditionally blue collar occupations and is slightly more educated than the national average for dual earner households. When broken down into individual earnings categories, the sample is slightly upscale with regard to experience and education. The distribution of children by occupation and age category is comparable to the national average. The sample as a whole revealed no significant difference in mean earnings for dual earner households. The limitations of using an upscale sample must be taken into consideration when generalizing the results to a larger population.

VARIABLE MEASUREMENT

Variables were selected for use in the empirical estimation based on the theoretical framework and on the availability of data. Summary statistics are presented in Table 1.

TABLE 1.
CHOICE AND MEASUREMENT OF VARIABLES

THEORETICAL CONSTRUCT	VARIABLE	MEAN	STANDARD DEVIATION
Time input, Hs	SRCHTIME	2.33	4.19
Total marginal savings, $-Xo_i(\partial Po_i/\partial Hs)$	MARSAVE	5.40	4.72
Non-wage income, v-PpXp	NWINC[A]	23942	11742
Price of time, w	WAGESHOP	9.11	4.18
Experience, k_i	COLL[B]	.44	
Experience, K_i	AGES	37.74	9.47
Technology, k_i	MICRO1[B]	.56	
Productivity shifter, k_i	OLDKIDS	.64	.93
Productivity shifter, k_i	YNGKIDS	.73	.92
Preference shifter, P_j	ENJOY	.00	.14

N - 95

[A] Total household non-wage income is used as a proxy for non-wage income spent only on food.

[B] For variables measured as dummy variables, the proportion is presented instead of the mean.

Time spent in search was obtained by asking the major shopper how many minutes per week they spent clipping coupons, reading the food ads, and shopping for groceries in each store shopped at. To calculate SRCHTIME, minutes spent clipping coupons and time spent reading the food ads were added together. Next, an individual's time spent shopping in their major grocery store were subtracted from the aggregate sample's average number of minutes spent in the major store. Consumers who spent more than the aggregate's average in a food store were assumed to be engaging in price comparison. This measure is a proxy for time spent in comparison shopping and attempts to differentiate comparison shopping within a store from total shopping time. Next, minutes spent in other stores were added to the difference from the average time spent in the store where major expenditures are made. Finally, all search time components were summed and divided by sixty to obtain hours spent in price search per week.

The price of a shopper's time (WAGESHOP) is the hourly wage rate received in the labor market. The wage rate is also a component of the price of search time.

Because savings on convenience and non-convenience foods are a function of search time, it is not possible to include an explicit measure of savings in the estimated equations. Savings consumers perceive they obtain due to price information search is used as a proxy variable for total marginal savings. This measure was tested by regressing perceived savings and search time on the total value of savings consumers actually obtain. Perceived savings were significant at the one percent level, indicating use of this variable may be appropriate.

Effects of changes in non-wage income (NWINC) on the demand for search time is measured as all income in a household not earned by the major shopper.

A dummy variable representing education was measured as a one if the respondent completed college or above (COLL). The null condition was satisfied if respondents did not completed college. Since college graduates are expected to have a different set of occupational options open to them compared with non-college graduates, this dichotomous variable captures the effect of these differences.

Use of a microwave oven is used as a proxy variable for the level of technology in a household. As a time saving durable, microwaves can free time used in meal preparation to be used in other activities, including price information search.

Identification of variables which influence productivity in and tastes for price information search is not straightforward. There is some theoretical background, but little empirical work that identifies the characteristics of "efficient" shoppers or variables associated with a "taste" for search (Doti & Sharir 1981; Douglas 1976; Dow & Juster 1980; Tauber 1972). Therefore, a descriptive analysis was performed on two additional categories of consumers identified from the data. For pairs within the categories of "efficient" shoppers and shoppers who enjoy time spent in search, hypothesis tests were performed to ascertain whether consumers within these two categories had any characteristics which distinguished them from one other.

A variable, EFICIENT, was computed by dividing the total value of coupons used for food groceries by time spent in search. This yielded a measure of savings per hour of search, which may be considered one measure of the efficiency of time spent in price information search.

More "efficient" consumers come from larger families and have more older children living in the household. This finding indicates that it is appropriate to use the number of children under age twleve (YNGKIDS) and age twelve and over (OLDKIDS) as productivity shifters in the equation used to estimate the demand for search time. It was felt that inclusion of these variables instead of total family size would better capture differential effects due to different family members.

A descriptive analysis was also performed on consumers stating that they enjoy time spent in price information search versus those who do not. Data on enjoyment was obtained by asking respondents whether they regard time spent clipping coupons, time spent reading the food ads, or time spent grocery shopping as work, enjoyment, or a combination of both. Those consumers stating that any one of the activities was regarded as enjoyment were separated from those indicating all categories were regarded as work or as both work and enjoyment. An analysis analogous to that done on more versus less efficient consumers was performed.

Differences between consumers who enjoy search and those who believe that search is work are associated with the number of stores shopped at, reason for choosing a store, a proxy for shopping when stores are crowded, and the demographic variables age and profession of the major shopper.

Lack of many significant demographic differences between shoppers who enjoy versus do not enjoy search time is not surprising. Enjoyment of an activity is a psychological construct and is not expected to be associated with any specific demographics. These results also indicate that enjoyment of an activity measures something other than productivity or tastes differences captured by variables already included in the analysis and forms the rationale for including a measure of enjoyment.

Use of the above results and principal components analysis allowed an index to be computed that could be used as a proxy for the total utility gained from spending time in search. This approach was selected because often a consumer's statement about his feelings are not accurate. By including a battery of behavioral and demographic factors that are associated with enjoyment of search time in an index, a more valid measure of total utility is formed. Included in the analysis were number of stores shopped at, reason for choosing a store, shopping when lines are long, age of major shopper, profession of major shopper and a variable indicating whether or not a consumer enjoyed searching for information[6]. The Eigen value associated with the first factor accounted for 26 percent of the total variation in the exogenous variables. This factor is assumed to capture the effects of the characteristics of individuals who enjoy spending time in price information search. A composite index calculated for each consumer is interpreted as a measure of the total utility obtained by a shopper who enjoys spending time in price information search.

ANALYSIS AND RESULTS

The demand for time spent in price information search can be written as a function of total marginal savings on purchased inputs ($Xo_i[\partial Po_i/\partial Hs]$), the wage rate (w), non-wage income (v), and productivity and preference shifters (k and P).

All respondents in the sample engaged in some price information search. Therefore, Ordinary Least Squares was the appropriate statistical method to use in the estimation of the demand for search time. The equation estimated to be estimated is:

$$(5)\ \text{SRCHTIME} = \beta o + \beta_1\text{WAGESHOP} + \beta_2\text{MARSAVE} + \beta_3\text{NWINC} + \beta_4\text{COLL} + \beta_5\text{AGES} + \beta_6\text{ENJOY} + \beta_7\text{MICRO1} + \beta_8\text{OLDKIDS} + \beta_9\text{YNGKIDS} + e$$

The results of the regression analysis are presented in Table 2. The results are robust for many of the independent variables included.

The effect of enjoyment of search time on the demand for time spent in search is significant and positive. For every one unit increase in enjoyment of search time, time spent in weekly price information search will increase by 1.53 hours. Unfortunately the use of principal components analysis to derive an index for enjoyment of search time makes it extremely difficult to formulate an interpretation of a unit of enjoyment. Hypothesis H1 can not be rejected.

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[6] Respondents were asked wether they enjoyed shopping, time spent clipping coupons, or time spent reading food ads. If they enjoyed any one of these activities, the preliminary enjoyment measure received the value of one. If shoppers did not enjoy any of the activities then the measure of enjoyment received a zero.

To analyze the effect of the price of search time on demand for time spent in search, the wage rate coefficient is the appropriate parameter to examine. A simple calculation using the coefficients on the wage rate and on total marginal savings can also isolate the effect of a change in the price of other uses of time from the effects of a change in the price of search time[7]. This calculation is necessary because the wage rate is the price of non-search time use and the wage rate minus total marginal savings is the price of search time.

The own price effect of a change in the price of search time on the demand for search time is insignificant, though negative, as predicted by theory. When the coefficient on total marginal savings is subtracted from the coefficient on the wage rate, the cross price effect of a change in the price of other uses of time on the demand for search time can be isolated. This calculated cross price effect is positive, indicating that search time and other uses of time are substitutes, as is predicted by economic theory when only two uses of time are considered. Given the insignificance of the coefficient on the wage rate alone, it appears that the price of search time does not have an effect on time spent in search in dual earner households. Given the significance of the effect of total marginal savings, it appears that search time and other uses of time may be substitutes. Therefore, hypotheses H2 and H3 are plausible, but are not fully supported.

TABLE 2. Results of Regression Analysis

VARIABLE		PARAMETER ESTIMATE	STANDARD ERROR
INTERCEPT		8.424***	2.34
WAGESHOP	Hourly wage of major shopper.	-.047	.09
MARSAVE	Total marginal savings on convenience foods.	-.386***	.14
NWINC	Non-wage income.	.00006**	.00003
COLL	Dummy variable that equals one if the major shopper completed college.	-.322	.77
AGES	Age of the major shopper.	-.125**	.04
MICRO1	Dummy variable that equals one if a microwave oven is used daily.	.145	.79
YNGKIDS	Number of children under age 12.	.449	.38
OLDKIDS	Number of children age 12 and over.	.161	.34
ENJOY	Index of enjoyment of search time.	1.53***	.34

ADJ R^2=.22
** Significant at the .05 level
***Significant at the .01 level

The coefficient on non-wage income is positive and significant. Indications are that search time is a normal good. As non-wage income increases, the amount of time spent in price information search increases.

The effect of age of the major shopper is significantly negative. Results indicate that for every year older a consumer is, search time will be decreased by about seven minutes per week. Age appears to be working as a variable which measures experience of an individual. As experience in search increases, time spent in search decreases.

DISCUSSION

This research formulated and tested a model in which a traditionally non-economic variable was included in a household production model of price information search. Given the insignificance of the price of search time and the highly significant, positive effect of enjoyment of search time on demand for time spent in price information search, it appears that including this psychological construct is appropriate. It is not the price of time that predicts time spent in searching for lower grocery prices, but whether or not enjoyment of an activity is important.

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[7] The estimated equation is written

$$z = \sum_{k=1}^{K} x_k \alpha_k + e$$

where z is the dependent variable, search time, x_k is a vector of exogenous variables and e is the error term. To examine the coefficients (α) on the price of search time and the price of other time uses, the relevant part of the above equation should read

$$\begin{aligned} &\alpha_1[Ps] + \alpha_2[w] \\ &= \alpha_1[w + Xo_i(\partial Po_i/\partial Xs)] + \alpha_2[w] \\ &= [\alpha_1 + \alpha_2]w + \alpha_1[Xo_i(\partial Po_i/\partial Xs)] \end{aligned}$$

where Ps is the price of search time, w is the price of other time uses, and $Xo_i(\partial Po_i/\partial Xs)$ are total marginal savings on goods searched for. However, the coefficients actually estimated are δ_1 and δ_2 as in

$$\delta_1[Xo_i(\partial Po_i/\partial Xs)] + \delta_2 w.$$

Therefore, the coefficient on the wage rate in the equation estimated really measures the effect of a change in the price of search time on search time demand because δ_2 is the sum of α_1 and α_2. To isolate the effect of a change in the price of other time uses, δ_1 must be subtracted from δ_2.

The finding that search is a normal good substantiates this finding in previous research that included both working and non-working wives (Carlson & Geiseke 1983), but is counter intuitive to what one would expect of higher income persons. Perhaps these consumers spend more on convenience grocery items and thus have more to save[8].

The negative effect of age is at odds with previous findings (Carlson & Geiseke 1983). It appears that in dual earner households, ages affects search time differently than in a sample which includes both earners and non-earners.

Theoretically, the model used appears to be a viable alternative to other models that attempt to explain consumer search behavior. Pragmatically, it appears that high income dual earner households are concerned with the price of groceries and that they do take advantage of savings, especially if the major shopper enjoys search time. This finding has implications for marketers who target high priced convenience items at dual earner households who face increased demands on their time. Marketers can use promotional techniques such as sales and coupons to gain market share among these households. By taking advantage of available savings, dual earner households can free income for other uses.

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[8] Coupons are available more often for manufactured foods and branded items (Gallo 1982).

REFERENCES

Alcaly, Roger, (1976), "Information and Food Prices," Bell Journal of Economics, Vol. 7, pp.658-71.

Belizzi, J.A., H.F. Krueckebery, J.R. Hamilton, and W.S. Martin, (1981), "Consumer Perceptions of National, Private, and Generic Brands," Journal of Retailing, 92 June, pp. 351-64.

Becker, Gary, (1965), "A Theory of the Allocation of Time," The Economic Journal, Vol. 75, September, pp.493-517.

Carlson, J., and R. Geiseke (1983), "Price Search in a Product Market," Journal of Consumer Research, Vol 9. pp. 357-365.

Collins, N.R. and L.E. Preston, (1969), "Price-Cost Margins and Industry Structure," Review of Economics and Statistics, August, pp. 271-80.

Collins, N.R. (1968), Market Structure and Cost-Price Margins in the Food Manufacturing Industries, testimony before the Senate Subcommittee on Antitrust and Monopoly, Hearings on Economic Concentration, pt. 2.

Conners, J. M., R.T. Rogers, B.W. Marion, and W.F. Mueller, (1985), The Food Manufacturing Industries: Structure, Strategies, and Performance, (Lexington, MA: Lexington Books,).

Doti, James L. and Samuel Sharir, (1981), "Households' Grocery Shopping Behavior in the Short Run: Theory and Evidence," Economic Inquiry, 19(2), April, pp. 196-208.

Douglas, Susan, (1976), "Cross National Comparisons and Consumer Stereotypes: A Case Study of Working and Non-working Wives in the U.S. and France", Journal of Consumer Research, Vol 3, pp. 12-20.

Dow, Greg, and E. Thomas Juster, (1980), "Goods, Satisfaction with Activities, and Well-Being," Working Paper, Institute for Social Research, Survey Research Center, University of Michigan.

Gallo, Anthony, E., (1982), "Coupons: Part I," National Food Review, NFR 18, Spring, pp. 11-15.

-------------------, (1982), "Coupons: Part II," National Food Review, NFR 19, Summer, pp. 12-26.

Gastworth, Joseph, (1976), "On Probabalistic Models of Consumer Search for Information," Quarterly Journal of Economics, Vol. 90, February, pp. 38-50.

Grieg, W.S., (1976), The Changing Structure of the Food Processing Industry, Washington State University, Bulletin #827, September.

Hacklander, Effie, (1978), "Do Working Wives Shop Differently for Food?", National Food Review, Economic Research Service, April, pp. 20-23.

Kaitz, Evelyn, (1979), "Getting the Most From Your Food Dollar," National Food Review, Economic Research Service, Winter, pp. 26-29.

Lee, J.Y., and M. Brown, (1986), "Food Expenditures at Home and Away from Home in the United States: A Switching Analysis," Review of Economics and Statistics, 68(1), February, pp. 142-147.

Maynes, E. Scott, and Terje Assum, (1982), "Informationally Imperfect Consumer Markets: Empirical Findings and Policy Implications," The Journal of Consumer Affairs, Summer, pp. 62-87.

Pepper, Audrey, (1980), "The Relationship Between Fast Foods and Convenience Foods: Definitions and Developments," Journal of Consumer Studies and Home Economics, Vol 4, pp. 249-255.

Redman, Barbara, (1980), "The Impact of Women's Time Allocation on Expenditure for Meals Away from Home and Prepared Foods," American Journal of Agricultural Economics, 62(2), May, pp. 234-237.

Reilly, Michael, (1982), "Working Wives and Convenience Consumption," Journal of Consumer Research, Vol 8, pp. 407-418.

Salop, Steven, and Joseph Stiglitz, (1977), "Bargains and Ripoffs: A Model of Monopolistically Competitive Price Dispersion," Review of Economic Studies, October, pp. 493-511.

Stigler, George, (1961), "The Economics of Information," Journal of Political Economy, 69(3), June, pp. 213-225.

Strober and Weinberg, (1980), "Strategies Used by Working and Non-Working Wives to Decrease Time Pressures," Journal of Consumer Research, Vol. 6, March, pp. 338-48.

Tauber, Edward, (1972), "Why Do People Shop?" Journal of Marketing, Vol 36, October, pp. 46-49.

Telser, Lester, (1973), "Searching for the Lowest Price," American Economic Review, 63(2), May, pp. 40-50.

Traub, L. and D. Odland (1979), Convenience Foods and Home Prepared Foods: Comparative Costs, Yield, and Quality, (Washington D.C.: USDA).

U.S. Bureau of the Census, Current Population Reports, Consumer Income (1986), Earnings in 1983 of Married-Couple Families, by Characteristics of Husbands and Wives, (Washington D.C.: Department of Commerce).

U.S. Bureau of the Census (1986), Selected Characteristics of Families, (Washington, D.C.: Department of Commerce).

Wilkie, William, and Peter Dickson, (1980), "Consumer Information Search and Shopping Behavior," unpublished research paper.

COMMENTS ABOUT THE SESSION ON FAMILY ECONOMICS ACCI 34TH ANNUAL CONFERENCE

by Horacio Soberon Ferrer[1]

The papers presented in this session do not seem to share the topical matter, the approach, nor the intention. The paper by Kolodinsky introduces an important theoretical development and proceeds to its empirical application to a very concrete and contemporary family situation. The paper by Beller and Chung, on the other hand does not introduce new theoretical developments nor presents an empirical application. Theirs seems more as a policy position paper, the subject matter though presents us with a very concrete and contemporary family situation. Finally the paper by Carsky, Dolan and McCabe, presents neither a theoretical construct nor does it represent a policy analysis, it does however open avenues for directions of new research on a very concrete and contemporary family situation - home based work.

The papers in this session do indeed represent an assortment of very concrete and contemporary family situations. With these common thread established I shall proceed to the discussion of the papers.

A TYPOLOGY TO MEASURE THE IMPACT OF HOMEBASED WORK ON QUALITY OF FAMILY LIFE.

A typology is defined as either a systematic classification or as a theory or doctrine. This paper represents both. Their classification of homebased workers not only makes good sense but reflects the fact that a new host of home occupations have been created by availability of inexpensive telecommunications - a recent phenomenon. Their propositions present attractive challenges for empirical research.

There are a couple of points that perturb one though. One of them deals with the use of term Economics as it is used to describe one of the variable associated to the work environment. Economics the paper says refers to the financial gain from working in the home. The term pecuniary concerns might have been more appropriate. In fact the Economics of homebased work is something that is missing from the paper. A proposition that might have been derived had Economics been emphasized would have pointed that if homebased work is voluntarily contracted a perceived net positive influence (net of opportunity costs) on the family unit must exist. The second point deals with the policy implications of proposed empirical research. The paper says on the assessed influence of homebased work, "If ... the influence is positive, public policy initiatives might be directed to encourage homebased work through further legislative actions removing restrictions on homework... If the impact is decidedly negative for some homebased occupations, policies might be formulated to mitigate these effects." But no clear definition is given on how these judgments can be made at the aggregate level. In the context of society as a whole "positive" or "negative" has a clearly normative flavor. In the context of the family unit the issue I believed is resolved by the individual making a decision, as to weather to engage itself or not in the occupation.

Child Support and the Feminization of Poverty

The paper does an excellent job in presenting the dismal picture of the child support system in the U.S. and how it impacts on the financial well being of the female headed household. The case is made quite convincingly that the addressing of this issue is of vital importance for the present and future well being of society at large.

Even though figures are given to illustrate the growth and sources of the problem, the underlying causes for it are not mentioned. The paper points out that since the middle 60's there have been an increase in the rate of divorce and in the birth of children out of wedlock (the sources of growth), but the reasons as to why this happens are not addressed. The addressing of such issues seems to be critical, especially since it is the middle sixties the point that marks the widespread availability of contraceptive methods which should have reduced the out of wedlock birth rate, as well as the birthrate of unstable marriages, *Ceteris paribus*. Also the middle sixties mark the passage of legislation introducing equal opportunity for women and a change in social mores concerning women employment outside the household. It is obvious that Ceteris paribus did not hold and thus such natality reductions did not take place nor has economic equality been achieved. What were those changes to ceteris paribus? I will venture that it has to do with the changes in the perceived cost of single parenthood and divorce. These costs take two forms:

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1. pecuniary - the advent of the "great society" safety net (AFDC, Food Stamps, etc.) would reduce the costs of single parenting, divorce, and joblessness.

2. Non-pecuniary - the change in social attitudes towards divorce and single parenting made it easier than it had previously been for people facing these situations to cope.

These cost reductions would act as incentives to shift the responsibility from the parent to society. An individual being confronted with a situation will act according to the balance of perceived costs and benefits. A reduction in perceived costs will thus serve as an incentive to irresponsible parenthood and family abandonment.

What lesson can we learn from Hungary? In Hungary parenting becomes an expensive and inescapable proposition, thus the Hungarians act accordingly. I am not sure that as the authors point out: "We ... must provide a decent system of child care at affordable prices" or that "parental leave on the birth of a new child would also be helpful." At least until a we is defined together with how much are we going to pay and how much are we going to benefit. I mean, would not these proposed policies further reduce the responsibility of parenting for the individual thus inducing a yet more socially irresponsible behavior.

Time as a Direct Source of Utility: The Case of Price Information Search

This paper incorporates the enjoyment of search time (i.e. "shopping") in a formal model of household production. But the paper goes further than glorifying "The Joy of Shopping" in a lagrangean function, it extends to the empirical realm such common sense approach to economic rationalization such as those proposed by Becker and by Stigler.

Ms. Kolodinky's methodology is most appropriate to the analysis of the implications of an observed behavioral pattern. I think his conclusions are just as appropriate. Of the three work hypothesis put forth as a result of his theoretical construct one is proven to be true. While the other two cannot be proven true by the empirical tests. I think that the reason for the failing of the empirical proof of these two propositions, namely:

H_2: An increase in the own price of search time will decrease the demand for search time and will depend on both the wage rate and total marginal savings available from search.

and:

H_3: Search time and home production time are substitutes.

Has to do with the selection of the wage rate as the opportunity cost of time. The wage is the opportunity cost of that time which we can devote to work and for which we can find placement. Only if we are working all the hours we want at wage W, and we have the opportunity to work even more hours at such rate, will W be the opportunity cost of time. Conceivably one would be willing to work time beyond the normal contractual commitment at the regular wage but cannot find a bidder for such work. i.e. We would like to work 45 paid hours a week, but cannot get paid more than 40. Thus time devoted for shopping is not necessarily in competition for work time at the going regular wage but of our own reservation wage rate. We can conceivably moonlight on whatever, but possibly not at W. It is not true thus that the cost of leisure or any other activity is necessarily W. It is true however that a upper limit value for this time will be W. Thus the opportunity cost of search time is $W^* < W$. Furthermore to the extent that number of hours worked can be more flexible for some occupations than for others independently of income, it can not be assumed that W can serve as an indicator that has a good correlation with the opportunity cost of time devoted to search.

I think that a better indicator of opportunity cost of shopping time could have improved in the shown results. I acknowledge however that the above is easier said than done.

ADMINISTRATIVE ATTITUDES TOWARD COLLEGE PROGRAMS IN FINANCIAL PLANNING: IMPLICATIONS FOR CONSUMERS

Gwendolyn M. Reichbach, Eastern Michigan University[1]

This paper describes the findings of a study of chief academic officers of U.S. colleges and universities about their attitudes toward educational programs in financial planning "in general" and "in their own institution," and plans to develop such a program. Multiple Classification Analysis was used to test a causal model of plans to develop a program in financial planning. The idenpendent variables were type of institution, public/private, region, and attitude toward programs in financial planning.

INTRODUCTION

Financial planning was almost nonexistent fifteen years ago, and today thousands of additional people are calling themselves financial planners annually. Indicative of this growth is the increasing membership of the International Association for Financial Planning (IAFP). In early 1983, there were about 10,000 members and by 1987 there were over 25,000. This development is an outgrowth of the "Mutual Fund Era" and the inflationary "Consumer Decade of the 1970s"[2].

Such phenomenal growth has resulted from many factors, including periods of high inflation, dual-earner couples, and technological advances increase consumer interest. Estimates are that "Americans spend up to 400 billion dollars per year on checking account fees, tax advice, estate planning and a vast assortment of other financial services"[3]. Additionally, surveys indicate that a strong majority of consumers need and want assistance in financial planning and are willing to buy such services[4]. However, many consumers know little about the financial planning process. use there are no state or federal licensing, ification or education requirements to be a financial planner, anyone can hang out a shingle and "practice" financial planning. Financial planners generally come from one of the older areas of the financial services industry, such as insurance, banking or securities. While some of these practitioners are highly competent, others do not take an overall view of a person's financial situation, needs and goals. Many so-called planners who say they carry out the financial planning process actually only sell a product. These issues create dilemmas for consumers seeking professional, comprehensive financial planning services.

The "professionalization" of the field has been advocated by various groups and individuals. Goldsmith[5] challenged financial planners that their business will either become professional or it will not survive as an entity. A profession has minimum standards of training and experience and emphasis on the length, place and technical nature of specialized education. It usually requires a college degree. Several organizations sponsor certification programs, but none offers an associate or baccalaureate degree in financial planning. Should traditional higher education become involved in moving the field toward professionalism by developing curricular options in financial planning? What are the attitudes of chief academic officers of accredited colleges and universities which do not offer programs in financial planning toward such programs? Which institutions plan to develop programs? Should academic offerings be non-credit designation or degree programs? Higher education's current and future involvement and attitudes toward financial planning education may strongly influence financial planning's movement toward professionalism. This study[6] addresses these research issues. The objectives are to:

1) analyze attitudes of chief academic officers at colleges and universities not offering programs in financial planning toward such programs "in general" and "in their own institutions;"

2) analyze institutional plans to develop programs in financial planning;

3) analyze the findings in relation to the interest of the financial planning field to move toward a profession.

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[2] Bohn, Robert. Financial Planning and Services: An Historical Update, A paper presented at the Association for Financial Counseling and Planning Education, Anaheim, California (September 30, 1985).

[3] Scherschel, Patricia. The Battle Heats Up for Investors' Dollars, U. S. News and World Report, Vol. 95 (December 26, 1983 and January 2, 1984), pp. 102-104.

[4] Mandell, Lewis. Technological Development and Its Impact on Financial Planning, in Proceedings of the Financial Counseling and Planning Consortium, Ames, Iowa: Iowa State University (October 11-13, 1984), p. 108.

Ulivi, Ricardo. How Consumers View Their Financial Planning Needs, The Financial Planner, Vol;. 10, No. 3 (March, 1981), pp. 22, 24-26, 28.

[5] Goldsmith, Marilyn P. Observations and Opinions, National Tax Shelter Digest (December, 1981), p. 38.

[6] Reichbach, Gwendolyn M. College-Based Educational Programs for Financial Planners, Doctoral Dissertation, Ann Arbor: University of Michigan (December, 1986).

PROCEDURES

Attitudes toward educational programs in financial planning were studied through data collected on a mail questionnaire. It was sent to the chief academic officers of 2,661 accredited doctoral-granting, comprehensive, liberal arts and community and junior college institutions in the United States. They were deans and vice presidents of academic affairs or instruction. The questionnaire asked whether their institution offered a program in financial planning. Of the 1,504 respondents (57 percent return rate), 1,399 reported their institution did not offer a program in financial planning. Administrators at institutions not offering this program were asked several attitudinal questions about the appropriateness of such programs and their plans to develop one. All institutional characteristics were well represented relative to the number of each type of institution in the United States. Administrators at institutions offering programs in financial planning were sent a second questionnaire requesting information about their program. These findings are reported in other papers.

The attitudinal data provided by chief academic officers at institutions not offering a program in financial planning were described by frequencies and marginal percentages. Then the data were merged with three stratification variables, type of institution, public/private and census region; and two types of analyses were performed. The chi-square test was used to analyze bivariate relationships. However, it cannot account for more than one independent variable. Multiple Classification Analysis (MCA) was used to simultaneously test all the predictors of an institution's plans to develop a program.

MCA had several advantages for this study over other multiple regression techniques. Higher education research problems, such as the one being studied here, often have correlated predictors, and this situation makes MCA an appropriate method of analysis. It is a regression technique designed to deal with nominally scaled predictors and the dependent variable measureable on an interval scale. It is possible to use MCA when the scale measuring the dependent variable is a two-point nominal one, such as yes and no. "In effect, one is using a 'proportion' scale in the sense that a mean of .65 for a group would indicate '65 percent yes' and the output statistics are equivalent to a two-group discriminant function analysis"[7]. MCA was applied to the causal model in Figure 1.

The independent variables in MCA were the type of institution, public or private, census region, appropriateness of programs in financial planning in colleges and universities "in general" and appropriateness of programs in financial planning "in their own institution." The dependent variable was a plan to develop a program in financial planning at their institution. Since MCA is an additive model, it was used to analyze the additive effects of each successive variable, such as the impact of type, public/private and census on administrator attitudes about the appropriateness of programs in financial planning.

RESULTS AND DISCUSSION

The results of the Multiple Classification Analysis tests will be discussed and supplemented by the chi-square and descriptive findings. The latter help us understand the former.

Appropriateness "in General"

The MCA presentations include two sets of figures for each of the predictors. The Eta values represent "the ability of the predictor to explain the variation in the dependent variable" without controlling for the effects of the other predictors. The Beta values "are directly analogous to the Eta statistics, but are based on the adjusted means rather than the raw means"[7]. They adjust for the effects of all other predictors. The results of the MCA of the appropriateness of programs in financial planning "in general" are presented in Table 1.

The findings of the Multiple Classification Analysis test supported the first part of the model. The impact of type of institution was only slightly reduced by controlling for the other

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[7] Andrews, Frank, James Morgan, and John Sonquist. Multiple Classification Analysis, Ann Arbor, Michigan: Survey Research Center, Institute for Social Research (May, 1967).

FIGURE 1. Multiple Classification Analysis Causal Model

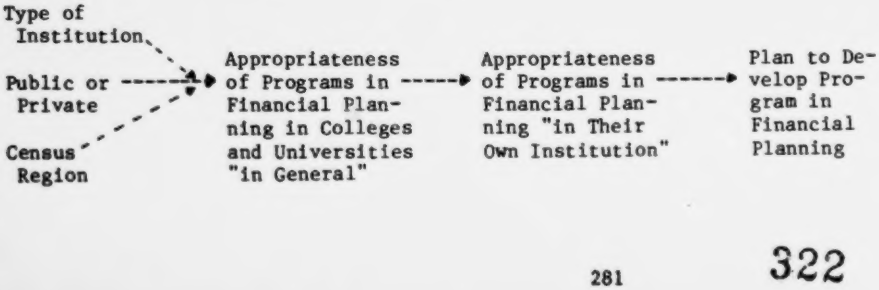

Type of Institution
Public or Private
Census Region
Appropriateness of Programs in Financial Planning in Colleges and Universities "in General"
Appropriateness of Programs in Financial Planning "in Their Own Institution"
Plan to Develop Program in Financial Planning

TABLE 1. Multiple Classification Analysis of Predictors of the Appropriateness of Programs in Financial Planning "in General"

	Eta	Beta
Type of Institution	0.148	0.137
Public or Private	0.123	0.136
Census Region	0.029	0.046

Multiple R-Squared = 0.030

predictors of general appropriateness. The relationships of public or private and census region were not reduced by controlling for the other two predictors. The findings suggest that these predictors operate independently on administrative attitudes about the appropriateness of programs in financial planning "in general."

Descriptive analysis indicated that 73 percent (975) of the respondents from institutions of all types believed programs in financial planning were appropriate "in general" in colleges and universities. Type of institution was significantly related to appropriateness and was the institutional variable having the strongest relationship with the dependent variable, appropriateness. Administrators considered programs increasingly more appropriate as one moved from doctorate (57 percent) through comprehensive (64.8 percent), liberal arts (68.4 percent) and community college (81 percent) institutions. The approval rate among liberal arts college administrators was surprising given this type of institution's traditional emphasis on liberal arts education.

It is often hypothesized that public/private influences work through or are related to the type of institution. Assumptions are also often made that public and private institution administrators will feel differently based on their differing philosophy and mission. The MCA tests indicated that public/private difference is not just a reflection of type of institution. Public/private is a real difference. This variable independently influences administrative attitude toward programs in financial planning "in general." Bivariate tests indicated a significant relationship between public/private and appropriateness of programs in financial planning "in general." A majority of respondents in both public (77.8 percent) and private (66.8 percent) institutions believed programs in financial planning "in general" were appropriate. A substantial proportion of both public (17 percent) and private institution administrators (26 percent) had no opinion about appropriateness of programs in financial planning "in general"' which could have substantial influence on the level of support.

In order to further clarify these strongly positive attitudes, the questionnaire asked respondents who said programs in financial planning were appropriate to identify which academic level(s) they believed were appropriate. Fifty-seven percent (535) felt non-credit designation programs and fifty-six percent (526) felt baccalaureate degree programs were appropriate. Considered less appropriate were associate (37 percent) or graduate degree (33 percent) programs. In comparing these attitudes of administrators in institutions not offering programs in financial planning to the types of programs actually in existence, the administrators more strongly approved of all types of programs than were operating in colleges and universities.

Only associate degree programs in financial planning were significantly related to type of institution. Attitudes toward the appropriateness of associate and graduate degree programs were significantly related to public/private. This finding would be unexpected based on the close public/private distribution of the respondents. Less than 40 percent of both public and private institution administrators believed either of these levels of programs was appropriate.

Why Programs in Financial Planning Are or Are Not Appropriate "in General"

Respondents' attitudes were further studied through an open-ended question asking why they believed programs in financial planning were or were not appropriate in colleges and universities. Four and one-half times more respondents stated reasons why programs in financial planning were appropriate than indicated why they were not appropriate. Also the reasons for the former were more varied than for the latter.

The "need for well prepared financial planners" (34 percent) was by far the most frequent reason for programs being appropriate. Chief academic officers from doctoral and comprehensive institutions were less likely to offer this as a reason than those from liberal arts and community colleges. The most often stated reason for programs not being appropriate was "should be part of a broader academic program; offer courses but not a program" (10 percent).

This latter reason and "People need help with financial matters" were significantly related to type of institution. The proportion of administrators stating "people need help with financial matters" as a reason for offering academic programs in financial planning rose gradually from doctorate to community college institutions. Conversely, community college administrators were much less likely to consider programs in financial planning "too narrow to be a program" than chief academic officers from doctorate universities. These responses likely indicate a reaction to recurring articles in the popular press about consumer lack of financial planning and warnings about unethical and uneducated financial planners seeking consumer business. They may also indicate at least a general knowledge of financial planning which could enhance the development of cooperative efforts between the field and higher education.

Appropriateness "in Their Own Institution"

What people think is appropriate "in general" in colleges and universities, they may not consider similarly for themselves. To test this idea, the chief academic officers were asked about the appropriateness of programs in financial planning "in their own institution." The causal model then hypothesized that appropriateness "in general," incorporating the impact of the three institutional variables, influenced how appropriate respondents considered programs in financial planning "in their own institutions." To study whether the institutional characteristics operated independently or through appropriateness "in general" to influence appropriateness "in their own institution," two Multiple Classification Analyses were conducted. The first (Table 2) considered the influence of the three institutional characteristics on appropriateness "in their own institution" without appropriateness "in general," and the second (Table 3) analyzed the influence of appropriateness "in general" in addition to the three institutional variables.

TABLE 2. Multiple Classification Analysis of Institutional Variables as Predictors of the Appropriateness of Programs in Financial Planning "in Their Own Institution"

	Eta	Beta
Type of Institution	0.129	0.078
Public or Private	0.180	0.183
Census Region	0.044	0.042

Multiple R-Squared = 0.035

This analysis indicated that the impact of type of institution on appropriateness of programs in financial planning "in their own institution" was considerably reduced by controlling for the other two variables. The impact of type of institution on appropriateness "in their own institution" was substantially more decreased by controlling for the other variables than the impact of these same characteristics on programs in financial planning "in general." This suggests that type of institution functions more independently when influencing appropriateness "in general," and that public/private is an independent influence on attitudes about the appropriateness of programs in financial planning "in their own institution" as well as appropriateness "in general."

TABLE 3. Multiple Classification Analysis of Institutional Variables and Appropriateness "in General" as Predictors of the Appropriateness of Programs in Financial Planning "in Their Own Institution"

	Eta	Beta
Type of Institution	0.127	0.020
Public or Private	0.178	0.109
Census Region	0.045	0.030
Appropriateness "in General"	0.517	0.501

Multiple R-Squared = 0.277

The results of the MCA analysis were quite different after adding appropriateness "in general" to the three institutional characteristics. Although its impact was slightly decreased by controlling for the other variables, appropriateness "in general" had much more effect on appropriateness of programs in financial planning "in their own institution" than any other predictor. This finding suggests that type of institution, public/private and region may all operate through appropriateness "in general" in affecting appro-probably the case because appropriateness "in general" was so powerful it caused misleading changes in the other predictors.

These findings suggest that in predicting whether administrators consider programs in financial planning appropriate "in their own institution," it is considerably more important to know their attitude about such programs "in general" than to know institutional characteristics. One cannot predict administrators' attitudes related to their institution simply by knowing the three institutional variables. Thus, colleges and universities considering the development of a program in financial planning cannot assume the attitude of their chief academic officer by knowing the institutional variables.

Descriptive and chi-square analyses supplement the MCA findings for this section of the causal model. Forty-four percent (561, 562) of the respondents each indicated a program in financial planning was and was not appropriate "in their own institution." Considerably more chief academic officers believed programs in financial planning were appropriate "in general" (72.5 percent), and conversely, fewer respondents considered such programs inappropriate "in general" (6.2 percent) than "in their own institution" (43.8 percent).

There was a steady decline in the percentage and number of administrators who indicated that programs in financial planning "in their own institution" were appropriate at each level from noncredit designation (66 percent) through associate

(40 percent), baccalaureate (30 percent) to graduate degree programs (9 percent). These findings somewhat support the division of programs in financial planning in colleges and universities where the highest percentage were non-credit designation College for Financial Planning Affiliate Programs (37 percent) and the next largest group was baccalaureate degree programs (31 percent). Administrators in all types of institutions which offer baccalaureate degree programs felt baccalaureate programs in financial planning were the most appropriate "in their own institution."

The respondents favored certain types of programs more "in general" than when applied to "their own institution." Non-credit designation programs were most favored and graduate programs least supported both "in general" and "in their own institution." However, the former type was more strongly favored "in their own institution" while the latter type was more highly supported "in general." Two factors may contribute to the popularity of non-credit designation programs. All types of institutions can appropriately offer these programs, and administrators and faculty members who consider financial planning "too trade or vocationally oriented" can probably justify a non-credit program. Many administrators and some accrediting agencies who believe graduate programs should be fairly broad with narrower areas, such as financial planning, incorporated as concentrations or specializations can probably support non-credit programs. These findings support the widely held attitude that many more people will support an idea in the abstract than will support it when specifically applied to them or directly affects them. They also suggest researchers cannot study programs in financial planning "in general" and then assume colleges and universities and administrators will function similarly "in their own institution."

Administrative attitudes about the appropriateness of programs in financial planning "in their own institution" were significantly related to the type of institution in which they worked. Community college administrators were most likely to consider these programs appropriate (51 percent) while those in liberal arts colleges most likely considered them not appropriate "in their own institution" (60 percent). These attitudes can be compared to the actual programs in financial planning identified in this study. Nine percent of the programs were in liberal arts colleges, 20 percent in community colleges, 32 percent in doctorate universities and 37 percent in comprehensive institutions. A much higher percentage of community college chief academic officers believed programs were appropriate "in their own institution" than there were programs in this type of institution.

Administrative attitudes about the appropriateness of programs in financial planning "in their own institution" was also significantly related to public/private. Public institution respondents were more positive than private institution respondents, 56 to 32 percent. The decrease in appropriateness from "in general" to "in their own institution" was considerably greater for private schools than for public institutions: from 78 to 56 percent for public and from 67 to 31 percent for private institution administrators. This conforms to the pattern of distribution of already existing programs between public (68 percent) and private (32 percent) institutions.

A majority of both public (69 percent) and private (60 percent) institution administrators felt non-credit designation programs were appropriate "in their own institution" while both groups felt strongly that graduate degree programs were inappropriate. This finding has strong implications for professionalization of the financial planning field. It suggests that the most likely type of program to be developed in colleges and universities is non-credit designation. Non-credit programs, however, will not contribute to the efforts working for professionalism in the field. Many professions require at least baccalaureate and often graduate degrees. Lack of development of these types of programs in financial planning may hinder the field's efforts toward professionalism.

Administrative attitudes about baccalaureate degree programs were also related to the chief academic officers being in public or private institutions. A considerably higher percentage of private (45 percent) than public (22 percent) institution administrators believed baccalaureate degree programs in financial planning were appropriate "in their own institutions." The fact that almost all liberal arts colleges are private could have influenced this finding.

Plans to Develop a Program in Financial Planning

The financial planning field is growing rapidly, but will academic institutions be prepared to provide educational preparation for planners? The chief academic officers were asked if their institution planned to introduce a program in financial planning. The last step in the causal model considers this issue. It proposes that appropriateness of programs in financial planning "in their own institution" influences plans to develop such a program. The MCA considered all the predictors in the model. Table 4 presents the findings of this analysis.

TABLE 4. Multiple Classification Analysis of Predictors of Plan to Develop a Program in Financial Planning

	Eta	Beta
Type of Institution	0.082	0.082
Public or Private	0.006	0.039
Census Region	0.065	0.062
Appropriateness "in General"	0.028	0.027
Appropriateness "in Their Own Institution	0.154	0.162

Multiple R-Squared = 0.027

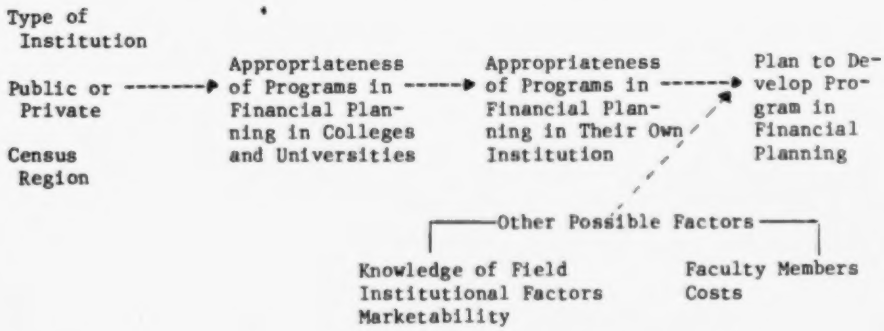
Appropriateness "in their own institution" was the only variable substantially influencing the dependent variable, but probably was insufficient to predict whether an institution would develop a program in financial planning. The influence of any of the predictors was not significantly reduced by controlling for the other predictors in the model.

Descriptive and chi-square analysis collaborate these findings. Sixty-three chief academic officers indicated their institution plans to develop a program in financial planning. This finding is somewhat surprising when compared to the 44 percent (561) of the respondents who felt programs in financial planning were appropriate "in their own institution." One might expect more institutions were planning to develop such a program. It may indicate an unwillingness to act on their positive perceptions or other institutional or economic factors working against development of a program in financial planning.

Plans to develop a program in financial planning were analyzed according to the three institutional characteristics. Plans to develop a program and type of institution were significantly related. Almost half of the institutions planning to develop a program in financial planning were community colleges, and considerably more were in public than private institutions. If the institutions actually did develop programs in proportions similar to those indicated by their answers, much of the new activity would be at the community college level,in the South and North Central regions and more frequently in public than private institutions. This was supported by the finding that non-credit designation and associate degree programs were considered more appropriate by administrators "in their own institution" than baccalaureate or graduate degree programs.

The Multiple Classification Analysis findings suggest that type of institution, public/private, census region, and appropriateness "in general" did not really operate and appropriateness "in their own institution" only somewhat influenced actual plans to develop a program in financial planning. Chi-square tests indicated that while the institutional characteristics are related to feelings of appropriatenss, they do not translate into actual plans. Thus, positive attitudes toward programs in financial planning "in general" and "in their own institution" were insufficient impetuses to develop a program. Other factors, such as marketability of the program and graduates, securing qualified faculty members, knowledge about the field, costs of establishing and running a program, and other institutional factors, may be equally influential on plans to develop a program in financial planning than appropriateness. Based on the findings of this research, the causal model was revised to include these factors (Figure 2).

FIGURE 2. Revised Multiple Classification Analysis Causal Model


Type of Institution
Public or Private
Census Region
Appropriateness of Programs in Financial Planning in Colleges and Universities
Appropriateness of Programs in Financial Planning in Their Own Institution
Plan to Develop Program in Financial Planning
Other Possible Factors
Knowledge of Field
Institutional Factors
Marketability
Faculty Members
Costs

SUMMARY AND IMPLICATIONS

Consumers are seeking assistance with their financial needs and the financial planning field is growing rapidly, but will higher education be prepared to provide educational preparation for the planners? This study of chief academic officers in institutions not having a program in financial planning increases our knowledge to answer this question in several important ways. It distinguishes between administrators' attitudes about the appropriateness of selected types of programs in financial planning "in general" and how appropriate they feel each type of program is "in their own institution." A strong majority of chief academic officers at institutions not having programs in financial planning believe such programs are appropriate for colleges and universities to offer. It was also determined, however, that these same administrators are less likely to consider these programs as appropriate "in their own institution." In other words, programs in financial planning are fine in general, but in my own institution it is another story.

Another general finding is that only about five percent of the administrators answering this survey were planning to develop a program in financial planning in their institution. While the institutional characteristics were related to feelings of appropriateness, they did not translate into actual plans. At the same time, the professional and popular literature and this research strongly advocate the need for well prepared, professional financial planners. These contradictory developments portend potentially serious problems for financial planners who want to move toward professionalism and American consumers who want to work with professionals. If the field continues to grow as it has in the last decade, there will probably be insufficient college and university programs to prepare the financial planners of the next century.

BIBLIOGRAPHY

Anderson, Terry. The Planner's Helper, Financial Planning, Vol. 13, No. 3 (March, 1984), pp. 151-154.

Andrews, Frank, James Morgan, and John Sonquist. Multiple Classification Analysis, Ann Arbor, Michigan: Survey Research Center, Institute for Social Research (May, 1967).

Bohn, Robert. Financial Planning and Services: An Historical Update, A paper presented at the Association for Financial Counseling and Planning Education, Anaheim, California (September 30, 1985).

Goldsmith, Marilyn P. Observations and Opinions, National Tax Shelter Digest (December, 1981), p. 38.

Horner, Albert. Certification, Personal Financial Consultant, in Proceedings of the Financial Counseling and Planning Consortium, Ames, Iowa: Iowa State University (October 11-13, 1984).

Levine, Norman. Financial Counselors - 1980s, Financial Planning Today, Vol. 4, No. 2 (May, 1980), pp. 413-416.

Mandell, Lewis. Technological Development and Its Impact on Financial Planning,inProceedings of the Financial Counseling and Planning Consortium, Ames, Iowa: Iowa State University (October 11-13, 1984), p. 108.

Millen, Robert. Financial Planning - A Banker's Point of View, in Proceedings of the Financial Counseling and Planning Consortium, Ames, Iowa: Iowa State University (October 11-13, 1984), p.5.

Reichbach, Gwendolyn M. College-Based Educational Programs for Financial Planners, Doctoral Dissertation, Ann Arbor: University of Michigan (December, 1986).

Scherschel, Patricia. The Battle Heats Up for Investors' Dollars, U. S. News and World Report, Vol. 95 (December 26, 1983 and January 2, 1984), pp. 102-104.

Ulivi, Ricardo. How Consumers View Their Financial Planning Needs, The Financial Planner, Vol;. 10, No. 3 (March, 1981), pp. 22, 24-26, 28.

Where to Go for Financial Advice and Planning, U.S. News and World Report, Vol. 96 (June 4, 1984), pp. 56, 59-60.

THE COMPOSITION OF CONSUMER ASSET AND DEBT PORTFOLIOS: A LANCASTERIAN APPROACH

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A Lancasterian approach to explaining the composition of consumer asset and debt portfolios considers the demand for portfolio characteristics that influence investors' utility beyond risk and rate of return. This research provides estimates of the expected return discounts associated with portfolio divisibility, liquidity, predictability, and costliness to examine the effect of household net worth and demographic variables on "expenditures" for portfolio characteristics.

INTRODUCTION

In much research on household portfolio composition, empirical models assume that individuals know that tradeoffs exist between risk and expected rates of return on their portfolios or between the ease and speed with which assets can be traded--liquidity--and portfolio return. Observed portfolios implicitly reflect consumers' willingness to trade expected return for the desirable properties that influence portfolio value. Rarely does our research take explicit account of the rate at which financial markets dictate that these properties are traded.

Toward the goal of offering a new approach to explaining portfolio composition, the research reported in this paper has two objectives. First, a general theoretical framework that combines Lancaster's linear characteristics model of consumer demand with modern portfolio theory is outlined. The consumer's portfolio selection problem is described in terms of the demand for a larger set of properties of financial assets and portfolios that influence their respective values. Second, and more importantly, this structure is the basis for an empirical model that addresses two questions that remain unanswered in the literature on portfolio composition:

What are the respective discounts from expected return for each of an expanded set of portfolio characteristics that include not only risk and liquidity but also divisibility and portfolio costliness?

And, how are investors' demands for portfolio liquidity, divisibility, predictability (of return), and reversibility (the absence of costs) influenced by the size of household net worth and by a set of household attributes that determine preferences?

THE STANDARD APPROACHES IN THE LITERATURE

A review of the exhausting literature on household saving and investment behavior would uncover two salient approaches to the examination of portfolio composition. One line of research employs statistical models to examine the demand for the components (assets and debts) of household wealth. In the second line of work, where the characteristics of assets and portfolios play important roles in utility maximization, the behavioral implications of theoretical models describe portfolio selection usually in terms of a single tradeoff between risk and expected return or liquidity and return.

The strictly empirical portfolio composition literature is replete with statistical demand function approaches of the "stock adjustment model" variety. (See Bryant (1986), Motley (1970), Watts and Tobin (1967) and Zick and Gerner (1983)). Each of these makes the implicit assumption that assets and debts are the ultimate objects of utility for the consumer.

The standard, formal theoretical structure for modelling the individual's portfolio selection problem is provided by the "modern portfolio theory" (Tobin 1958, Markowitz 1952). The expected return on the portfolio and the standard deviation of the return distribution--a measure of the risk of the portfolio--are the only properties of assets and portfolios that matter in determining the investor's utility. This "mean-variance" assumption also is the basis for the fundamental risk-return tradeoff that is required to characterize equilibrium in the model. Much empirical work on the demand for risky assets has its theoretical roots in this literature (for instance, Blume and Friend 1975).

One recent study of consumer investment behavior does adopt a multi-attribute approach that focuses on financial characteristics that are commonly addressed in this literature. In work that presents a similar theoretical structure as that adopted in this paper, Simon (1985) examines seven characteristics of Individual Retirement Account investments that are important in determining whether individuals are able to match actual IRAs to their desired IRA accounts. Convenience in purchase, familiarity to match actual IRAs to their desired IRA accounts. Convenience in purchase, familiarity with the depository institution, transaction costs, whether the account is federally insured, the stability or volatility of the interest rate, the flexibility in transferring or liquidating funds, and the required management on the part of the investor are hypothesized as the attributes that give rise to utility.

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AN INFORMAL THEORETICAL STRUCTURE

A general theoretical structure casts the portfolio composition problem in terms of Lancaster's linear characteristics theory of consumer demand and modern portfolio theory. This model postulates the existence of a set of five portfolio characteristics that influence investors' utility (along with the level of present consumption) and offers hypotheses concerning the determinants of household preferences for these properties. A set of technical constraints by which individuals produce portfolio properties from a collection of assets (and debts) and the constraints imposed by an implicit market for portfolio characteristics that determine their shadow prices are also present in this structure.

First, assume that the household engages in a two stage utility maximization process. The investor's first decision is represented by a separable utility function which describes its choice for the respective levels of present and future consumption:

$$(1) \qquad U = u(\, v(C_o;\, HHC_o),\ v(Q_k;\, HHC_p)\,),$$

where the subutility functions $v(C_o; HHC_o)$ and $v(Q_k; HHC_p)$ represent the present consumption and investment decisions respectively. Given the choice of the level of present consumption, C_o, (determined by a set of investor preferences, HHC_o), the portfolio selection problem in the second stage involves allocating invested wealth, net worth, to a set of assets and debts to maximize a subutility function composed of portfolio characteristics that affect the portfolio's cash flows and future value.

The subutility function, $v(Q_k; HHC_p)$, postulates that the investor derives utility from a set of five characteristics, Q_k, given a set of household preference shifters, HHC_p. I hypothesize the relevance of a set of characteristics that are commonly addressed in the financial literature and that are described by Tobin (1958) as being the properties of assets that determine their value. The expected return on the portfolio, Q_{R*}, is the investor's estimate of the uncertain size of the future value of the portfolio and is composed of both yield--positive and negative cash flows from the assets--and return (appreciation or depreciation in [illegible]). The liquidity of the portfolio, Q_L, is [illegible] relationship between the length of time required to trade portions of the portfolio and the percentage of full value realized by the trade (sale). Portfolio divisibility, Q_D, is the size of the smallest dollar units in which the assets in the portfolio can be traded. The characteristic that embodies the standard risk element of the investment problem is portfolio predictability of return, Q_p. Finally, the costliness of the portfolio--the presence of transaction costs, taxation of asset returns, and other reductions from expected return--is translated into a utility-generating characteristic, reversibility, Q_{RV}, which measures the extent to which full value of the portfolio is achieved net of these costs.

Preferences for these portfolio characteristics are hypothesized to be a function of three sets of investor characteristics that typically influence a household's accumulation objectives. First, life cycle variables common to most work on saving and investment behavior are included to capture the effect of the household's expectations of family events and conditions in the future that will lead to different demands for portfolio characteristics influencing future budgets given its present life cycle stage.

Lacking any strong theoretical or empirical support to predict the nature of relative demands over the life cycle, stages of the family life cycle (LCS1 through LCS5) can only be expected to account for significant differences in the relative demand for portfolio divisibility, liquidity, and predictability.

Household composition factors are relevant in light of the attention given to them as factors influencing the management of household budgets. Here, the model is concerned with the effect that household size (HHSIZE), the number of dependents of the investor (NDEPS), and the age structure of children (AGEOLD - age of the oldest child under 18), have on the choice between portfolio return and characteristics that cause diminutions in portfolio return but that provide flexibility in future budgets--liquidity and divisibility. At best, household size is expected to be an important determinant in explaining variations in households' relative demands for portfolio divisibility and liquidity. Also, the number of dependents of the investor will influence the demand of predictability of portfolio return and portfolio reversibility. Alternatively, a priori considerations of the large expenditure scenarios that are associated with older children--e.g., financing college education--would suggest that the demand for portfolio predictability will increase as the age of the oldest child increases.

Finally, a set of human capital characteristics are believed to influence relative demands for portfolio characteristics. Here, the model seeks to capture such effects as the ability of primary wage and salary earners to substitute spouse's employment income for portfolio income in periods of unemployment (UNEMP--both spouses unemployed and TWOWORK--both working) on their demand for liquidity (see Klein 1965 and Mincer 1966). Included in this set are variables that consider the effects of self-employment status (SELFEMP), the probability of unemployment of the household head (UNEMPR) on the demand for predictability of portfolio return, the effect of the level of educational achievement by the investor (HSED) and the retirement status of the household head (RETIRED) on the demand for more costless or reversible portfolios.

Technical Constraints and Implicit Market Prices

Portfolio composition is described in the Lancasterian structure by recognizing that households purchase assets (and debts)--the market goods over which savings are distributed--to form a portfolio--the consumption activity--that generates expected return, divisibility, liquidity, predictability, and reversibility--the objective and intrinsic characteristics that give rise to utility. Households produce portfolio characteristics according to five linear constraints represented by

$$(2) \qquad Q_k = \sum_j a_j Q_{kj}, \qquad (k=R^*,D,L,P,RV).$$

In this expression, a_j is the proportion of the household's net worth invested in asset j, and Q_{kj} is the relative amount of the k-th portfolio characteristic contained in asset j.

Estimation of the empirical demand relationships relies on the crucial assumption that investors are faced with a set of expected return discounts for utility-conferring portfolio characteristics that represent equilibrium in the implicit market for these attributes (see Rosen 1974). The shadow prices of characteristics, p_k, representing the change in expected return on the portfolio for each "unit" of the characteristic traded are generated by an "hedonic return function" of the form,

$$(3) \qquad E(R_p) = r(Q_D, Q_L, Q_P, Q_{RV}).$$

$E(R_p)$ is the expected return on a market portfolio that represents the trading of all assets and debts in the economy and the resulting implicit market for portfolio characteristics. By assumption, atomistic investors observe the opportunity costs of their portfolio tradeoffs as being exogenously determined return adjustments. Associated with this relationship is a general "characteristic-return" hypothesis. As implied above, I expect that portfolio attributes with positive marginal utilities will be associated with discounts from expected portfolio return so that the signs of the partial derivatives of this function will be negative.

With a solution to the consumer's maximization problem, one might derive a set of implicit demand equations for portfolio characteristics. The general form of these relationships is given by

$$(4) \qquad Q_k = q_k\,(p_k, NW; HHC_p),$$

where NW is the investor's net worth--the size of the portfolio, HHC_p is the vector of preference-shifters and all other variables are as defined above.

EMPIRICAL ESTIMATION OF CHARACTERISTICS EXPENDITURE FUNCTIONS

The Data

The 1983 Survey of Consumer Finances (Avery and Elliehausen 1984) contains information on the current value of assets and debts in the portfolios of 4,103 randomly-sampled U.S. households. I select a subsample of 2,526 husband-wife households to which the estimated demand equations apply. I restrict the model to this subgroup of the population in light of my hypotheses that concern the preferences of "married" households realizing that an individual's marital status, viewed in the long-run, may be determined simultaneously with the composition of his or her non-human wealth.

Twenty-one assets that comprise the examined portfolios of these individuals are listed in Table 1. Debts are included to the extent that they finance the ownership of a particular asset. First and second mortgages on single family homes, reflected in the net equity value of this asset, are the only debt items considered. Some assets and debts included in the 1983 Survey are excluded for theoretical and methodological reasons.

The Lancasterian model requires an objective measurement of the amount of each of the portfolio characteristics contained in each asset. Estimates of the expected return, E(R), and predictability of each of the assets are generated from a time-series of 48 monthly annualized rates of return reported for the period of January 1980 to December 1983. Divisibility measures reflect the smallest dollar units of the asset that can be traded determined by either regulated minimum investment requirements or other institutional limitations. The housing asset carries a divisibility measure of $1 since the asset is measured as the household's net equity position. Liquidity measures reflect the minimum amount of time the asset must be held in the portfolio or the minimum trading time required to realize full, current value. Finally, the reversibility measures attempt to estimate the percentage loss in full value due to personal taxation and trading costs.

Cardinal values for portfolio characteristics suffer from imprecise measurement. Recognizing their deficiencies requires that they be used only as a basis for generating relative quantities of the characteristics that are assumed to mitigate such errors in measurement. Table 1 contains a set of ordinal rankings of the assets on a five point (four for liquidity) scale. Assets containing relatively higher amounts of divisibility, predictability, and liquidity are assigned higher rank scores, five being the highest. The order is inverted for reversibility; assets are ranked according to their costliness. Five-point scales are used to maintain variation in the characteristics data for statistical efficiency and are assumed to

Table 1-Asset Rankings

	DIVIS.	LIQUID.	PREDICT.	REVERS.
Checking Accts. (regular, Now & money fund	5	4	5	1
MMDAs	5	4	4	5
MMMFs	5	4	2	5
Savings Accts (at all institutions)	5	1	2	5
IRA/Keoghs	5	1	2	5
All Savers Cert.	2	3	4	1
Short term CD	1	3	3	5
Long term CD	4	2	4	5
U.S. Sav. Bonds	5	2	4	4
Treas. Notes	2	2	3	4
Munic. Bonds	2	4	4	2
Corp. Bonds	2	4	4	3
Common Stock	4	4	1	3
Taxable Mut.	3	4	1	3
Non-tax. Mut.	3	4	1	2
Land Contracts	1	2	4	4
Homes	5	3	3	2

reflect meaningful separations among (relative) cardinal measures. This second objective could only be accomplished for liquidity with a four-point scale.

Measures of the quantities (weighted rank scores) of each of the characteristics in each household's portfolio are calculated according to expression 3.

The Estimated Equations

Two adjustments to the general model are required to investigate the consequences of separability. Difficulties in the specification of the demand equations may exist when household characteristics that influence the choice of the relative portions of the consumption and investment value (net equity position) of owned homes are included in a model that assumes separability in this choice. To examine this issue, two sets of equations estimated: one reflects the inclusion of housing net equity in the portfolio, while the "preferred" model refers to a portfolio of purely financial assets.

The second modification recasts the characteristics demand equations into "expenditure" functions. Expenditures are interpreted as total expected return adjustments for the weighted relative quantity (rank score) of the characteristic held in the portfolio. The general expression for the system of equations is given by,

$$5) \qquad P_kQ_k = q_k\,(NW,\ HHC_p) + e_k.$$

Results

Ordinary least squares estimates of two hedonic return functions appear in Table 2. The parameters of these equations support the characteristic-return hypotheses including the positive coefficient for reversibility which is measured as the relative costliness of the portfolio.

Table 2-Ordinary Least Squares Estimates of the Hedonic Return Function

Model	Housing Included	Housing Excluded
Constant	19.74 (.153)	18.09 (.165)
Divisibility	- .734 (.024)	- .971 (.026)
Liquidity	- 1.142 (.036)	- .915 (.035)
Predictability	- 2.389 (.016)	- 2.069 (.022)
Reversibility	1.095 (.015)	1.218 (.017)
N *	3,789	3,644
F value	13,803.17	9,012.82
Adjusted R^2	.94	.91
Highest Condition No.	30.05	20.35

* - the respective sample sizes reflect the elimination of observations with zero net worth.

Note that when housing equity is included in the portfolio, expected portfolio return discounts increase with relatively greater amounts of liquidity and predictability and decrease for divisibility.

Table 3 contains the ordinary least squares estimates of the four characteristics expenditure functions. The coefficients for each regression are interpreted as the change in the total expenditure on each characteristic with a unit change in the regressor.

The second equation for each characteristic contains the estimates that represent the "preferred" portfolio of financial assets that ex-

Table 3. CHARACTERISTICS EXPENDITURE EQUATIONS*

Model	EXDIV		EXLIQ		EXPRED		EXREV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constant	3.297	3.932	3.541	3.308	6.335	8.018	2.758	3.667
	(.029)	(.077)	(.055)	(.086)	(.160)	(.156)	(.054)	(.089)
ADJNW	- .0008	- .0008	.0006	.0004	-.0016	-.0039	.0003	-.0004
	(.00006)	(.0002)	(.00007)	(.0001)	(.0004)	(.0004)	(.0001)	(.0002)
HHSIZE	.006	- .074	-.027	-.038				
	(.0088)	(.023)	(.011)	(.017)				
NDEPS					.0003	-.155	-.053	-.065
					(.066)	(.065)	(.018)	(.030)
AGEOLD					-.048	.011		
					(.020)	(.019)		
LCS1	.229	.635	.429	-.023	1.776	.599		
	(.033)	(.088)	(.059)	(.092)	(.226)	(.221)		
LCS2	.266	.909	.374	.134	1.430	1.310		
	(.033)	(.087)	(.058)	(.091)	(.209)	(.204)		
LCS3	.241	.810	.223	.044	.571	.814		
	(.034)	(.097)	(.060)	(.094)	(.311)	(.304)		
LCS4	.213	.599	.171	-.097	.122	-.162		
	(.036)	(.097)	(.060)	(.093)	(.326)	(.318)		
LCS5	.046	.284	.149	-.216	-.346	-.693		
	(.027)	(.071)	(.053)	(.084)	(.179)	(.174)		
UNEMP			.101	-.316			-.060	-.047
			(.050)	(.078)			(.097)	(.161)
TWOWRK			-.046	-.026			-.043	.183
			(.023)	(.036)			(.044)	(.074)
UNEMPR			-.0071	-.0008				
			(.0051)	(.0080)				
SELFEMP					-.348	-.313		
					(.192)	(.187)		
HSED							.255	.687
							(.048)	(.079)
RETIRED							.185	.473
							(.094)	(.157)

* - Equations 2,4,6, and 8 are the "preferred" portfolio models.

(standard errors in parentheses)

N = 2,526

F value	60.67	28.90	17.37	8.23	30.31	41.82	8.13	19.77
Adjusted R^2	.142	.072	.061	.028	.095	.127	.017	.043

clude the housing asset. Comparison of the statistical significance and magnitudes of the parameters of this equation with those obtained for the portfolio that includes the housing asset reveal the consequences of violating the separability assumption. The model only permits interpretation of insignificant coefficients for the housing-included equations as the result of the dominance of the consumption value of owned homes with respect to the variable in question.

The most appealing results of the estimation concern the relative demand for portfolio characteristics over the family life cycle. Household expenditures on divisibility, on average, reach a relative maximum when they enter the middle stages of the family life cycle. The hypothesis that the stage of family life cycle will be a significant determinant of expenditures on portfolio characteristics is supported throughout the estimated equations with the exception of portfolio liquidity. Comparison of the alternative models suggests that life cycle factors become important determinants of the demand for liquidity when families view their net equity in single families homes as a component of their portfolios.

Expenditures on portfolio divisibility and liquidity decrease while expenditures on the predictability of portfolio return decrease as the number of dependents increases. In other words, additional members to a household dampen investors' demands for characteristics that reduce portfolio return but that are desirable for flexibility in the management of future cash flows. Disturbing results are obtained for some labor force participation variables. The negative coefficient for UNEMP, unemployment of both spouses, indicates that expenditures on (the demand for) liquidity decrease, a counterintuitive result. One explanation is that, depending on the longevity of unemployment, these households may have "sold" their most liquid assets for portfolio income that takes the place of earned income so that their remaining portfolios consist of less liquid assets.

Finally, portfolio divisibility, predictability, and lack of reversibility (costliness) appear to be inferior characteristics with respect to the size of the portfolio; portfolio liquidity, however, appears to be normal. A $10,000 increase in household net worth (ADJNW) is associated with a decrease in the demand for these characteristics (expenditures) by the coefficients given in equations 2, 6, and 8, respectively.

Conclusion

Answers to the questions outlined at the beginning of this paper appear to be available when a Lancasterian approach is adopted to explain consumer portfolio composition. Highly significant estimates of an "hedonic return function" provide evidence that empirical contributions are available from an approach that considers a fuller set of tradeoffs between expected portfolio return and the characteristics that influence return beyond the standard risk-return tradeoff.

References

Avery, R.B., G.E. Elliehausen, G.B. Canner, and T.A. Gustafson (1984), "Survey of Consumer Finances, 1983," Federal Reserve Bulletin, (September): 679-692.

Blume, M.E. and I. Friend (1975), "The Demand for Risky Assets," American Economic Review, 65 (December): 900-922.

Bryant, W.K. (1986), "Assets and Debts in a Consumer Portfolio," Journal of Consumer Affairs, 20:1 (Summer):19-35.

Klein, P.A. (1965), "Financial Adjustments to Unemployment," Occasional Paper No. 93, New York: National Bureau of Economic Research.

Lancaster, K.J. (1966), "A New Approach to Consumer Theory," Journal of Political Economy, 74 (April): 132-157.

Markowitz, H.M. (1952), "Portfolio Selection," Journal of Finance, 7 (March): 77-91.

Mincer, J. (1966), "Labor Force Participation and Unemployment: A Review of Recent Evidence," in R.A. Gordon and M.S. Gordon, eds., Prosperity and Unemployment, New York: Wiley. pp. 72-112.

Motley, B. (1970), "Household Demand for Assets: A Model of Short Run Adjustments," Review of Economics and Statistics, 52:3 (August):236-241.

Rosen, S. (1974), "Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition," Journal of Political Economy, 82 (February): 34-55.

Simon, A.E. (1985), "Selecting an IRA: An Application of a Characteristics and New Commodities Approach to Explain Consumer Behavior." Unpublished Ph.D. dissertation, Ohio State University.

Tobin, J. (1966), "The Theory of Portfolio Selection," in The Theory of Interest Rates, F.H. Hahn and F. Brechling, eds., New York: MacMillan. pp. 3-51.

Watts, H., and J. Tobin (1960), "Consumer Expenditures and the Capital Account," in Friend and Jones, Proceedings of the Conference on Consumption and Saving, vol. II, Wharton School of Finance and Commerce, Philadelphia: University of Pennsylvania.

Zick, C. and J. Gerner (1987), "Family Composition and Investment in Household Capital: Contrasts in the Behavior of the Husband-Wife and Female-Headed Households," Journal of Consumer Affairs, 21:1 (Summer): 21-39.

THE SUBJECTIVE ASSESSMENT OF FINANCIAL WELL-BEING AMONG FARMERS

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A multistage, interaction analysis of 506 cases gathered in the rural North Central Region during the fall of 1985 indicates that farmers are significantly less satisfied with their economic and financial situations than are nonfarmers. Reported recent change in the economic and financial situation has more effect on satisfaction for farmers than for nonfarmers, while the reported rating of the economic and financial situation has less effect for farmers than for nonfarmers.

The assessment of economic well-being has been the topic of a growing body of literature over the past 40 years. Over and over, researchers have found that subjective assessments of income adequacy and satisfaction are of equal or greater importance than objective assessments of income, wealth and level of living in the prediction of economic well-being and the quality of life.

The purpose of this paper is to explore the impact of being a farmer on satisfaction with one's economic and financial situation. The purpose is accomplished through a multistage analysis of data from rural areas and small towns in six states in the North Central region, one of the areas of the country hardest hit by the farm crisis. The data were gathered during the fall of 1985, a time when the crisis was at its worst.

The general hypothesis tested is that there is interaction between being a farmer and recent change in and rating of the family's current economic and financial condition in their effects on satisfaction with the economic and financial situation of the household. The effect of being a farmer occurs both directly and through differential effects on (1) whether recent changes in economic and financial well-being have occurred and (2) the rating of the current economic and financial situation.

Recent change in economic and financial situation is included because satisfaction with a condition is more a response to changes than to absolute levels of the condition. Rating of the current situation is included because reports of satisfaction relate more to the respondent's perception of a situation than to its objective level. The relationship of change and rating to satisfaction are seen as differing between farmers and nonfarmers because the macroeconomic events that reigned at the time of the survey in the North Central Region had greater effects for farmers than for nonfarmers.

THE ASSESSMENT OF ECONOMIC WELL-BEING

A theme running through the social indicators literature is that well-being should be assessed through the use of subjective indicators, such as reported satisfaction, reported rankings and reported comparisons with reference groups. Those assessments should be used in combination with objective indicators, such as wealth and income. Work in the early 1970s by Campbell, Converse and Rodgers (1976) and Andrews and Withey (1976) showed that the assessment of the quality of life requires that the researcher take into account both sets of indicators.

Strumpel (1976) hypothesized that the objective environment (including income, assets, socioeconomic status and employment opportunities), coupled with an individual's goals, aspirations and expectations, determines the individual's level of subjective well-being, which, in turn, is the primary cause of human behavior and societal discontent. Strumpel and his associates (Strumpel, Curtin and Schwartz, 1976; Strumpel, 1976; Katz, 1976) found support for the hypothesis in a series of studies of various populations.

Strumpel and his associates essentially "tested" Davis' (1945) hypothesis that it is the gap between standard and level of living that motivates human behavior. Individuals whose levels of living do not match the standards of living to which they aspire are likely to report dissatisfaction and a propensity to engage in behaviors that would reduce the gap.

The standard of living and the discrepancy between the standard of living and the level of living are culture specific, as noted by Cantril (1965): "The standards and expectations by means of which people judge their own development are relative to their experience" (Cantril, 1965:

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311). Using Cantril's data, Easterlin (1973) showed that, both between and within societies, there is little association between the level of income and the level of happiness. Like Duncan (1975), who posed the question, "Does money buy satisfaction?", Easterlin concluded that it is not the level of income or wealth, but rather, how one compares oneself to a point of reference: the life situation of a reference group or the collective standards or norms of a reference group.

Subsequent studies of economic well-being have obtained similar findings. Cramer (1982) found a strong, but not perfect, relationship between economic welfare, a measure incorporating both current income and net worth, and attitudinal measures of income adequacy and satisfaction with income. The absence of a perfect correlation suggests that other factors are important in the prediction of income adequacy and satisfaction with income.

Slusher, Helmick and Metzen (1983) found that value concordance between husband and wife on the rankings of the importance of selected life domains (e.g., family, work, and financial security) is an important factor in the explanation of satisfaction with economic well-being. Their findings indicate that the relationship is stronger for wives than for the husbands in their sample of husband-wife families. Using the same data set, Mammen, Helmick and Metzen (1983) found that reported adequacy of income is a stronger predictor of satisfaction with the quality of life than is income.

Winter, Bivens and Morris (1984) showed the effect of subjective assessments of economic well-being and objective indicators of economic well-being on satisfaction with the household's financial situation. The strongest predictor of satisfaction is the respondent's rating of the household's financial situation; respondents who rate the household's situation as being at or near "the best for your family" also report high levels of satisfaction.

The statistically most significant predictor of the respondent's rating of the household's financial situation is recent change in that situation. Respondents who report recent improvement are more likely to rate their situation as good than those who do not. None of the measures of income and wealth included in that analysis is as important in the prediction of overall satisfaction with economic well-being as the reports of recent change and the rating of the situation.

Evidence from several studies, then, indicates the importance of the inclusion of the subjective attitudes along with objective indicators of wealth and income in the prediction of economic well-being. A recent study (Wilhelm, Iams and Rudd, 1987) provides evidence that it is not particularly important which member of a husband-wife couple provides the report of the attitudes. Their study of the agreement between husbands and wives indicates high levels of agreement between spouses on subjective indicators of financial well-being.

THE IMPACT OF THE FARM CRISIS ON THE ASSESSMENT OF WELL-BEING

In his analysis of the farm crisis, Weagley (1985) notes that the farm crisis of the 1980s had its roots in the boom in the farm economy in the 1970s. Expanding world markets, coupled with acreage controls in the early 1970s led to huge increases in the prices of farm products. Weagley (1985:275) reports that, "By 1974, agricultural prices had risen 69 percent from their 1971 levels." He continues, "Farm families were elated by the trend in agricultural prices for, just as their baby-boom children were completing school and returning to the farm, the prospects for profitable farm expansion looked feasible." Consequently, many families mortgaged their current land holdings to expand the sizes of their farms in anticipation of family farm operations. Many of these families, particularly in the productive North Central Region, bought land at high prices; $3000 an acre for prime farmland was not atypical.

The decline in world markets and subsequent decline in the prices of farm products caused land values to decline. Debt-to-value ratios for some farmers increased to more than 70% (Weagley, 1985:277). The North Central region had the highest percentages of farmers in trouble, defined as having a debt-to-value ratio of more than 40%. Even so, more than half (58%) of the farmers in the North Central Region had debt-to-value ratios of less than 40%. Hence, even at the height of the farm crisis, there were many farm families who were not experiencing extreme difficulties.

Still, by 1985, farmers in general felt worse off, even if they were not in danger of losing their land. The profits of the 1970s were a thing of the past (at least temporarily), and many "paper millionaires" whose assets were based on land values found themselves in severe difficulties.

The question addressed in this study is, "what is the effect of being a farmer (compared with nonfarmers) on subjective financial well-being?" The main research question is whether there is a difference between farmers and nonfarmers in (1) satisfaction with the economic and financial situation and (2) the effects of change in economic and financial situation and rating of the situation on satisfaction. The overall hypothesis tested is that, when socioeconomic and demographic variables are controlled, farmer status and the interaction of farmer status with change and rating have significant effects on satisfaction with financial well-being.

THE DATA

The sample consists of 506 households selected through area sampling methods to represent nonmetropolitan communities with populations of less than 20,000 and open-country residents in the six-state area. The data were gathered in the fall of 1985 by trained interviewers administering an interview schedule to the head of the household in male-headed or female-headed households or to either adult in a couple-headed household. The average interview lasted approximately one hour.

THE VARIABLES

Satisfaction

The respondents were asked, "Please tell me how satisfied or dissatisfied you are with your economic and financial situation." The responses ranged from 1, "extremely dissatisfied," to 7 "extremely satisfied." More than one-third (35%) gave responses between 1 and 4; 22% responded "somewhat satisfied" (category 5), 36% responded "satisfied" (category 6), and the remainder (7%) indicated "extremely satisfied." With the mean at 4.79, the median 5.0, and the modal category at 6, it is clear that this distribution is skewed to the right (Table 1).

TABLE 1. Means and standard deviations of all variables used in the analysis

Variable	Mean	Standard deviation
1. Age of the head of the household	50.73	18.83
2. Education of the head of the household	11.90	2.93
3. Household size	2.69	1.41
4. Annual household income, 1984	22242.39	15407.64
5. Couple-headed household (proportion)	.73	--
6. Female-headed household (proportion)	.17	--
7. Farmer (proportion)	.24	--
8. Recent change in economic financial situation	3.23	1.00
9. Rating of economic and financial situation	4.31	1.37
10. Satisfaction with economic and financial situation	4.79	1.56

Rating

A version of Cantril's (1965) self-anchoring scale was uses to assess the respondent's rating of the household's economic and financial situation. Each respondent was asked to "Imagine that number 7 is the very best situation you can think of and number one is the very worst situation you can think of. Now, please tell me where each of the following situations for you and your family are on the scale from 1 to 7." Almost one-fourth of the respondents (24%) indicated numbers between 1 and 3; one-third responded with the middle category (response 4), and the remaining 43% indicated responses between 5 and 7. The mean of the variable is 4.3, and the median value is 4 (Table 1).

Change

Change in economic and financial situation, asked the respondent to assess whether the economic and financial situation for the household had "gotten better or gotten worse during the past five years." The potential responses were "gotten much worse" (5%), "gotten worse" (19%), "unchanged" (32%), "gotten better" (36%), and "gotten much better" (8%). The mean is 3.2 and the median is 3.0 (Table 1).

Farmer

The household was classified as being engaged in farming if income was received during 1984 from the rental of farm land, or if income was received from farming, even if the income in 1984 was negative. The variable is a dummy variable, with farmers (24%) coded 1 and all others 0.

The Interaction Variables

To test the hypothesis that being a farmer makes a difference in one's reported attitudes about the household's economic and financial situation, the farmer variable was used. In addition, two interaction variables were created by multiplying the assessment of change and the rating of the economic and financial situation by the dummy variable representing farmers. The purpose of these variables is to test whether their effects on satisfaction differ between farmers and nonfarmers. Nonfarmers receive a 0 on each interaction variable, while farmers receive their rating on each variable.

The Control Variables

Age of the head of the household is the age in years of the household head; in couple-headed households, this variable represents the age of the husband. The mean age is relatively old, at 51 years (Table 1), but not surprising given that the sample represents the rural North Central Region. The education of the head of the household is the number of years of schooling completed, and is slightly less than 12 years (Table 1). The modal category is 12 years of education.

Household size measures the number of persons living in the household at the time of the interview. The modal category, with 37% of the cases, is two, while one-fifth of the sample lives alone. The remaining 44% live in households with three or more persons. Total household income was assessed by asking whether the respondent's household had received income from a list of specific sources. If income was received from a particular source, then the respondent was asked the amount from that source. The amount from all sources was summed to yield the annual household income. The mean income for the sample, $22,242, is larger than the median income of $19,296.

There are three categories of type of household: couple-headed households (the most prevalent type with 73% of the households in this category), female-headed households (households headed by a woman without a male partner), 17%, and male-headed households (households headed by a man without a female partner), 10%. Three dummy variables were created to represent the different household types. The male-headed household is the omitted category in the regression analyses.

THE ANALYSIS

Preliminary correlation and regression analyses indicated potential problems with multicollinearity among the explanatory variables. First, the psychological variables of recent change and rating are highly correlated (Table 2). In addition, the two psychological variables are not independent of the control variables. Had the assumptions of a recursive model been tenable, the latter would not have been such a problem. Because interactions were expected, a recursive model was not deemed appropriate.

TABLE 2. Correlation matrix

	2	3	4	5	6	7	8	9	10
Age	-37*	-43*	-19*	-15*	22*	03	-24*	04	10*
Educat'n		19*	39*	10*	-08*	-01	18*	18*	07*
H'hold size			30*	54*	-36*	04	-04	18*	-09*
Income				39*	-31*	09*	25*	38*	24*
Couple headed					-74*	08*	01	08*	00
Female headed						-12*	03	-05	-01
Farmer							-13*	-05	-00
Recent change								54*	58*
Rating									68*
Satisfaction									--

*P<.10

To overcome the two problems of multicollinearity, the satisfaction model and the rating model were tested using instrumental forms of the recent change and rating variables. The instrumental variables are the residuals representing the variance not associated with the control variables and the farmer variable, in the case of recent change, or the control variables, the farmer variable and the residual of recent change for the rating variable. The instrumental variables were used in the creation of the interaction variables previously described. This multistage procedure has apparently resolved the main problems with multicollinearity.

First, the farmer variable has very weak zero-order correlations with other variables. Its highest correlation with any of the control variables is -0.12 and it has a correlation of -0.15 with recent change but that is removed in the instrumental variable format.

Second, recent change and rating have a zero-order correlation between them of 0.54 but that is removed in the instrumental variable format. Each of those variables has a correlation with satisfaction that is substantial but those presumably reflect their causal effects.

Third, the correlations among the control variables range from -0.75 to 0.54 but these variables are treated as a block. The individual coefficients are not important to the analysis.

Fourth, the interaction variables have only moderate correlations with the parent variables (recent change and its interaction, 0.54; rating and its interaction, 0.49). Farmer continues to have no correlation because of the multistage form of the analysis.

Fifth, the correlations of the control variables with the instrumental variables are, of course, zero in each case. The correlations of the control variables with the interaction variables are very small, ranging from -0.11 to 0.08.

FINDINGS

Correlation Matrix

The correlation matrix (Table 2) indicates few surprises among the zero-order correlations of all the variables. Recent change, rating, and satisfaction are positively correlated, with coefficients of .54, .58, and .68. Farmers are older than nonfarmers, are more likely to be in couple-headed households and less likely to be female-headed households than are nonfarmers. Farmers are more likely than nonfarmers to report higher levels of income.

That there are two categories of farmers, in the sense that some suffered severe setbacks during the crisis while others who fared quite well, can be seen in the pattern of the zero-order relationships between being a farmer and the three dependent variables, the assessment of recent change, the rating of the economic and financial situation, and satisfaction with the economic and financial situation. Farmers are more likely than nonfarmers to report that their economic and financial situation has gotten worse, but the correlation coefficients between being a farmer and the rating and satisfaction are not significant, indicating an absence of relationship. One potential interpretation is that, although their situation declined, a portion of the farmers do not rate their situation as bad, nor are they dissatisfied with that situation. Other farmers, of course, rate their situation as not particularly good, and they indicate lower levels of dissatisfaction; hence, the nonsignificant correlation coefficients.

Change in Economic/Financial Situation

Being a farmer is one of the significant predictors of reported change in the financial and economic situation (Table 3). The coefficient is negative, indicating that farmers are more likely to report that their economic and financial situation declined in the past five years than are nonfarmers. Other variables with significant relationships to the assessment of change are age of the household head, household size, and household income. Older people are more likely than younger people to report that the situation has gotten worse, and those who enjoyed higher incomes in 1984 are more likely to report that their economic and financial situation improved in the past five years. Larger families more likely than smaller families to report that their financial situations have gotten worse.

TABLE 3. Regression of the change in economic and financial situation on the control variables

Variable	B	SE B
Age of the household head	-0.012*	0.003
Education of the household head	0.005	0.016
Household size	-0.070*	0.039
Household income (0000s)	0.179*	0.032
Couple-headed household	-0.137	0.162
Female-headed household	0.032	0.170
Farmer	-0.377*	0.098

Constant	3.775
R^2	0.147
Adjusted R^2	0.135
degrees of freedom	7 & 498
F-ratio	12.276
Probability	<0.001

*P <.10

Rating of the Economic/Financial Situation

In Table 4, an instrumental form of the recent change variable is included in the regression, rather than the raw recent change variable. The instrumental variable was created by the regression reported in Table 3, and is the residual, the variance in recent change not explained by the control variables.

TABLE 4. Regression of the rating of the economic and financial situation on recent change and the control variables

Variable	B	SE B
Age of the household head	0.007*	0.003
Education of the household head	0.035*	0.019
Household size	0.114*	0.045
Household income (0000s)	0.372*	0.037
Couple-headed household	0.033	0.186
Female-headed household	0.061	0.196
Farmer	0.269*	0.113
Recent change (residual)	0.696*	0.052

Constant	3.059
R^2	0.402
Adjusted R^2	0.392
degrees of freedom	8 & 497
F-ratio	41.715
Probability	<0.001

*P <.10

The residual of recent change has a positive effect on the rating of the household's economic and financial situation. Respondents who reported an improvement in the household's economic and financial condition in the past five years are likely to rate their current situation toward the high end of the scale. Being a farmer has a significant negative effect on the rating. This effect is separate from the effect of the residual of the recent change variable.

Other significant predictors of the rating are household income, household size, and age and education of the household head. Older people and those with higher incomes and higher levels of education are likely to report high ratings of their economic and financial situation. Respondents from larger households are less likely than those from smaller households to rate their economic and financial situation as good. With an R^2 of .39, the overall model is quite good for the prediction of the respondent's rating of the household's economic and financial situation.

Satisfaction with Economic/Financial Situation

It is obvious from Tables 3 and 4 that neither recent change in nor rating of the economic and financial situation are independent of the control variables. And they are not independent of each other. Therefore, the analysis of satisfaction includes instrumental variables with the dependence on the control variables, farmer, and on each other removed. The residual of recent change is the product of the regression reported in Table 3; the residual of the rating was produced by the regression reported in Table 4. The interaction variables were constructed by multiplying the farmer variable by each of the instrumental variables.

The prediction of satisfaction with the household's economic and financial situation is quite strong with an R^2 of .55 (Table 5). The significance of the farmer variable indicates that farmers are less satisfied than the nonfarmers when recent change, rating, and the socioeconomic and demographic variables are controlled.

TABLE 5. Regression of satisfaction with the economic and financial situation on recent change, rating, interactions, and the control variables

Variable	B	SE B
Age of the household head	0.009*	0.003
Education of the household head	0.015	0.018
Household size	-0.125*	0.044
Household income (0000s)	0.313*	0.036
Couple-headed household	-0.214	0.181
Female-headed household	-0.165	0.190
Farmer	-0.327*	0.110
Recent change (residual)	0.864*	0.060
Rating (residual)	0.590*	0.050
Farmer x recent change (resid'l)	0.282*	0.112
Farmer x rating (residual)	-0.186*	0.103

Constant	4.024
R^2	0.563
Adjusted R^2	0.553
degrees of freedom	11 & 494
F-ratio	57.781
Probability	<0.000

*P <.10

The interpretation of the relationships between (1) the residual of recent change and satisfaction and (2) the residual of rating and satisfaction is straightforward. Those who report an improvement in their situations and those who rate their situations as relatively good are likely to report high levels of satisfaction.

The significant effects of the interaction variables mean that farmers differ from nonfarmers in the effect of recent change and of rating on satisfaction with the economic and financial situation. For farmers, the effect of recent change on satisfaction is stronger than it is for the nonfarmers. This result indicates that equal differences in recent change for farmers result in greater differences in satisfaction than for nonfarmers. The interpretation of the second interaction term is the opposite because the sign is negative. Equal differences in rating result in smaller differences in satisfaction for farmers than for nonfarmers. In other words, recent change for farmers, either a positive change or a negative change, has more effect on satisfaction than it does for nonfarmers. Similarly, the rating of the household's economic and financial situation has less effect on satisfaction for farmers than it does for nonfarmers.

CONCLUSIONS

The pattern of findings suggests that, because the crisis in the Midwest is seen primarily as a crisis in agriculture, farmers are likely to have stronger subjective and affective reactions to the situation. This pattern can be a result of (1) a heightened sensitivity to change when viewed as crisis related, and (2) the possibility that change had greater consequences for farmers than for nonfarmers under the conditions that existed at the time. As a result, recent changes (either improvement or its opposite) affect satisfaction greatly for farmers. The implications are that fairly deep psychological reactions are occurring among farmers.

The ratings by farmers of their situations are less closely related to their satisfaction than is the case for nonfarmers. That result indicates that a less rational process of reaction to economic and financial conditions is occurring on the part of farmers. The evidence of such a process is especially notable in the light of the fact that farmers may not have been less well off than others. They, on average, experienced more negative change and then reacted emotionally. The reason may be the development of the situation into a socially-defined, media-communicated agricultural crisis.

Our findings suggest that the psychological consequences of the agricultural crisis are as profound as its economic ones. The implications for researchers and practitioners include the need to develop and monitor both economic and psychological indicators to assess the depths of a crisis as well as subsequent recovery from that crisis. The most recent crisis has been the farm crisis; other crises will demand the same sort of assessment.

REFERENCES

Andrews, F. M. and S. B. Withey (1976), *Social Indicators of Well-being*, New York: Plenum.

Campbell, A., P. E. Converse and W. L. Rodgers (1976), *The Quality of American Life*, New York: Russell Sage.

Cantril, H. (1965), *The Pattern of Human Concerns*, New Brunswick, NJ: Rutgers University Press.

Cramer, S. L. (1982), "The Relationship of Economic Welfare and Perceived Financial Adequacy and Satisfaction of Midwestern Urban Retired Families," in C.B. Meeks (ed.), *Proceedings of the 28th Annual Conference of the American Council on Consumer Interests*, Columbia, MO: ACCI, pp. 44-49.

Davis, J.S. (1945), "Standards and Content of Living," *American Economic Review* 35:1-15.

Duncan, O. D. (1975), "Does Money Buy Satisfaction?", *Social Indicators Research* 2:267-274.

Easterlin, R.A. (1973), "Does Money Buy Happiness?", *The Public Interest* 30:3-10.

Katz, D. (1976), "Factors Affecting Social Change," in B. Strumpel (ed.), *Economic Means for Human Needs*, Ann Arbor, MI: Institute for Social Research, University of Michigan, pp. 249-269.

Mammen, S., S.A. Helmick and E.J. Metzen (1983), "Factors Affecting Perceived Income Adequacy," in Marilyn M. Dunsing (ed.), *Proceedings of a Symposium on Perceived Economic Well-being*, Urbana-Champaign, IL: Illinois Agricultural Experiment Station, pp. 40-50.

Slusher, B.J., S.A. Helmick and E.J. Metzen (1983), "Perceived Economic Well-being: The Relative Impact of Value Concordance and Resource Adequacy," in M.M. Dunsing (ed.), *Proceedings of a Symposium on Perceived Economic Well-being*, Urbana-Champaign, IL: Illinois Agricultural Experiment Station, pp. 14-26.

Strumpel, B., (1976), "Introduction and Model," in B. Strumpel (ed.), *Economic Means for Human Needs*, Ann Arbor, MI: Institute for Social Research, University of Michigan, pp. 1-12.

Strumpel, B., R.T. Curtin and M.S. Schwartz (1976), "Economic Life-Styles Values, and Subjective Welfare," in Burkhard Strumpel (ed.), *Economic Means for Human Needs*, Ann Arbor, MI: Institute for Social Research, University of Michigan, pp. 19-65.

Weagley, R.O. (1985), "The Current Family Farm Crisis," in Karen P. Schnittgrund (ed.), *Proceedings of the American Council on Consumer Interests*, Columbia, MO: American Council on Consumer Interests, pp. 275-279.

Wilhelm, M.S., D.R. Iams and J. Rudd (1987), "Husband and Wife Agreement on Indicators of Objective and Subjective Well-being," *Home Economics Research Journal* 16:13-22.

Winter, M., G.E. Bivens and E.W. Morris (1984), "The Assessment of Subjective Change in Family Financial Well-being," in George Rowe et al. (eds.), *Family Strengths 5: Continuity and Diversity*, Newton, MA: Education Development Center, pp. 399-417.

EXPANDING INTERNATIONAL CONSUMER RESEARCH: WHY AND HOW

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In attempting to answer at least in a schematic way the grand questions raised by the title, this paper is concerned with what may be called the 4M issues:

Matter -- what to study, and why
Methods -- how to do the research
Management -- who conducts the research, and
Money -- how the research may be financed

The development of these concerns raises at least seven challenges to the consumer research profession and to the panel discussion following this presentation. These challenges are restated in the summary of the paper.

SETTING THE STAGE: DEFINITIONS

What do we mean by International Consumer Research? Here the noun consumer research is taken to mean research on consumer ecology, that is, on the interaction of consumers (and groups of consumers) with the environment, and most notably the market environment, in which they find themselves. The term interaction is sufficiently broad to encompass not only strategic but also plain behavioral as well as attitudinal phenomena. The market environment, in turn, is affected by--and also affecting--the stakeholder groups influencing consumer welfare, notably business, government, media and the educational establishment in addition to consumers themselves. It is also affected by, and affecting, the economic, social, political and technological infrastructure in which it is imbedded.

The adjective international suggests at least four centers of possible relevance:

1) Theory and methods development for international research on consumer ecology. Evidently, to some extent it is accidental in what nation(s) new models and tools for such research are developed. It is equally clear, however, that chances are more than average that they will be developed in nations with more than average global awareness level, such as, say, the Netherlands and Scandinavia, as the record will bear out. Not nearly close to the top ranking in global awareness the U.S. is doing surprisingly well in this area, in large part no doubt due to the continuing influx of scholars from other countries.

2) Country studies. This term refers to studies limited in scope to only one country--such as advertising attitudes in Bangladesh or an analysis of public consumer policy in the Bundesrepublik. Challenging fellow panel members, let me say I believe that most country studies only incidentally and tangentially are to be viewed as international research (Challenge No. 1).

3) Comparative studies, trans-national or cross-cultural. We will discuss this type of research in some detail in a moment.

4) Global or inter-nation interface studies. Examples might include the effect of EEC consumer policy on consumers in member countries, the infant formula episode, global standardization of consumer goods, the effect of trade restrictions on consumer welfare.

At all levels one may think of both positivist research, i.e., essentially fact-finding studies of consumer behavior and policy, and more normatively oriented studies aimed at consumer rights and responsibilities or generating consumer policy conclusions or implications. By consumer policy we understand organized measures to promote consumer interests. The total range of consumer policy comprises consumer information, education, and protection. Consumer policymakers include consumer organizations, other citizen groups, business, government, educational institutions and the mass media (Thorelli and Thorelli 1977).

MATTER AND METHOD

Why is it essential to expand international consumer research? Perhaps the most pungent reason is that of testing the external validity (in a literal sense!) of single-culture-centered research. We are faced with a situation where the external validity of likely more than fifty percent of the thousands of articles and books in the general consumer behavior and policy area is, at best, questionable. One may venture that this observation probably also holds for the scores of papers presented at this conference. (We may note in passing that not a single presentation seems to be based on international consumer research as defined here.)

There are other reasons. Some things just cannot be studied in the U.S., such as consumer adjustment to hyperinflation (Johnson 1986), or consumer ecology in socialist economies (Thorelli 1982). Such research may also be practically useful due to its private or public policy implications. Technology transfer of public consumer policies may well be hazardous unless environmental differences are taken into account (Thorelli 1981). The U.S. is keenly interested in Third World development, but thus far has failed to see that consumer emancipation is a likely prerequisite to economic development (Thorelli and Sentell 1982). We must blame ourselves for the lack of data and public informedness in this area. International consumer research is also bound to be useful in the building of a general science of consumer ecology.

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In the States we also need to think about our competitiveness. A major reason for our losing out in world markets in this decade of toughening competition has been our lack of understanding of overseas consumers and markets. Our academic leadership in the entire consumer research area is increasingly being challenged by European scholars. In the area of industrial buying the International Marketing and Purchasing Project comprising five European nations is just eons ahead of anything coming out of our own shops. International consumer policy research is largely a European domain, as manifested by the *Journal of Consumer Policy*, published in Stuttgart.

Among additional reasons one stands out: frequently there is no better way to attain a deeper understanding of one's own culture than to compare it with another one, or preferably several of them!

What methodology should be used in international consumer research? Turning around a tired macho fable we are reminded of the woman who was asked, How is your husband? Her retort was, compared to what? It would be tempting to explore her answer in detail, but it might also lead us astray--as it might indeed the woman herself! Suffice it to say that the anecdote points to the crucial importance of *comparison* in our search for truth. Long practised in such disciplines as economics, law and literature and, more recently, business administration, the comparative method has been applied only rarely in consumer research at the international level. As such research develops beyond its present modest stage, we may safely predict that comparative methodology will move to the forefront. This is why we are placing method ahead of matter in this discussion.

As Boddewyn (1969) observes in the excellent introduction to his book on comparative marketing, "Comparison deals with similarities and differences, and the comparative approach consists of their systematic detection, identification, classification, measure, and interpretation." (On the last point many comparative studies are weak.) Comparison is based on the recognition that many phenomena, for instance, grocery shopping, are well-nigh universal, yet take particular forms and patterns in different times and places. In a classic article Reavis Cox (1965) defined three categories of comparative results: "universals," "limited generalizations," and "specific differences." Grocery shopping in urban areas may be universal, but the generalization that most of it takes place in stores is a limited one (indeed, in a majority of countries grocery shopping may still occur in open markets). Specific differences present a special challenge. If their possibility is overlooked in the research design they may well not be uncovered at all, or they may confound the results; in either case their neglected existence will make the overall comparison less meaningful, if not outright misleading.

In extending a study of grocery shopping in Thailand to the People's Republic of China the author was fortunate enough to postulate that the coexistence of state and private food outlets in the PRC might be reflected in some specific differences in the comparison of consumer satisfaction in the two countries. Thus, while overall satisfaction was somewhat similar in the two environments, an overwhelming majority of PRC customers thought that produce was fresher and service more friendly in private than in state stores (Thorelli and Sentell 1982; Thorelli 1983). Anticipating the possibility of such a result we had added the hypothetical control question, Assuming that there were only one type of store, which type would you prefer? To our surprise, an equally overwhelming majority opted for the state store. A plausible but speculative explanation: state stores had a monopoly on rationed items at the time, such as rice and cooking oil. (This, on the other hand, was a "detail" overlooked in our questionnaire!)

This example was given as it illustrates our Challenge No. 2: More attention should be given to the "specific differences" between cultures, or we run the risk that comparative research loses much of its meaning. In this area qualitative approaches have an indispensable role to fill next to quantitative tools. Our aim must be explanation (or even prediction) rather than merely fact-finding.

What subject matter should be studied? Of course, there is no limit to the number of conceivable topics. The list below is intended to serve illustrative purposes only:
- the extent of consumer choice opportunity, and its determinants;
- the extent of restraints on the freedom to consume, and its determinants;
- consumer strategies;
- time allocation;
- the household as firm;
- consumer expenditures (and savings);
- consumer satisfaction and aspiration levels;
- role of social approval and pressure in buying and consumption (gift giving, fashion, status, etc.).

Even given the subject matter the issue must be faced at what level of aggregation the research should set in: national societies at large or national or international subcultures such as ethnic minorities, senior citizens, Information Seekers.

Clearly, both as individual researchers and as a profession we face Challenge No. 3: What should the priorities be regarding subject matter and level of aggregation in international consumer research?

MANAGEMENT AND MOTIVATION

Other circumstances equal, native researchers have a great differential advantage in conducting research in their own milieu. At the conceptualization stage they can also be counted on to identify key "special differences" in their own cultures which will need to be taken into account. Prevailing on colleagues in other countries to do their parts in comparative research also can be a tremendous saving of both time and travel and living costs. These gains are generally counter-balanced to some extent by communication problems. It must be kept in mind, however, that overseas researchers often have limited access to funds and, of course, will expect due recognition as partners in the project. Building a project-oriented international network is generally an exciting venture in itself. Yet American researchers still need to be reminded that the community of scholars is boundless: it is truly global. Thus we face Challenge No. 4: Networking to build an international team of researchers to conduct your project.

The relative dearth of international consumer research suggests, however, that a greater problem is that of motivating our researchers to harness their talents in this direction in the first place. The effort to generate requisite motivation must proceed along a broad front. There is a crying need to internationalize our two major consumer research organizations, ACCI and ACR. The ACCI Committee on International Affairs has done yeoman work, but in an inhospitable atmosphere. As Board Member of ACR in the last three years, I volunteered to boost the international contacts of that organization, which regularly issues proclamations about its pending internationalization. There was, however, close to zero backup when it came to going from sounds to deeds. Indeed, I am aware of exciting international program proposals for ACR conventions which have been turned down as not being in the mainstream of programmer personal interests. Not only do we need more international research content in our programs, we must also somehow bring at least some of the more prominent European researchers here for our conventions. This is not just networking--we have a lot to learn!

Next we need to push the snail-like internationalization of U.S. universities. This means internationalization of standard courses not now having international content--especially courses aimed at doctoral students. More faculty and student exchange programs with overseas. Too, it means spiritual and monetary support for international research, and a climate of evaluation of such research which recognizes the special problems of coordination and communication inherent in international work. It means our stimulating interest in and respect for the professional journals specializing in international consumer and marketing research, such as the Journal of Consumer Policy, International Marketing Review and the Journal of Global Marketing, plus several other relevant journals published in Europe. The Journal of Consumer Affairs and the Journal of Consumer Research and other domestically oriented journals must be reoriented to a broader perspective. Challenge No. 5: Internationalize professional groups, universities, and journals to stimulate interest in international courses.

MONEY

Not all international consumer research needs extra money. For example, a study relating the government surveys of consumer expenditure and savings patterns which have been made in well over 20 nations to degrees of economic development and other presumably relevant environmental explanatory variables--a type of research that may be undertaken in any well-stocked U.S. university library. Nevertheless, it is true that international research tends to require more funds than corresponding domestic studies, if nothing else due to the necessity of replicating the research in at least one other culture. Travel and living, translation and communications costs are typical resource drains. In addition, sometimes it is necessary to provide some kind of subsidy for colleagues abroad (especially in the Third World) engaged as partners in their respective countries, whether this be in the form of salary supplement, employment of assistants, or the payment of survey costs.

How are such funds to be obtained? The Midwest Universities Consortium for International Affairs (MUCIA) has already made at least one sizeable grant in this area, and presumably would be receptive to further applications. Other likely funding agencies include the German Marshall Foundation and the Bank of Sweden American Independence Jubilee Fund. Consumers Union has helped spawn several local testing and consumer groups abroad. In recent years CU has not made any name for itself as a philanthropic group, its now flowering finances notwithstanding. It should be time to approach Mrs. Karpatkin!

Having assisted doctoral students in obtaining funds for international consumer research from U.S. multinationals, I suggest it may be time to approach a select group of them with a view of forming a consortium to support international consumer and marketing research. As always, it is easier to obtain support if the research may have prospective policy implications. My own experience is that academic freedom and integrity will be respected by corporations as much as by interested government agencies.

Finally, let us note that ingenuity helps in minimizing what otherwise might be formidable costs. We were able to extend our Information Seeker project to Norway by the "omnibus" procedure, that is, by attaching half a dozen questions to a large-scale representative survey of consumers undertaken by the Central Statistical Office of the government, and were given access for our own purposes to the data stemming from the 60+ other questions involved in the survey.

Who knows, it may be time again for Reader's Digest to repeat its large-scale comparative survey of consumer attitudes to advertising of some 20 years ago. There is every reason to assume they would be as interested in as objective an approach as might be expected from any academic researchers.

Challenge No. 6: We need more imagination in tapping sources of funding and piggy-backing on governmental and other survey research.

LINKING COTTAGES IN THE GLOBAL VILLAGE

Finally, a word on research at the inter-nation interface. Examples of topic areas were given in the introductory section. There is little research of this nature, although scholarly articles have appeared both on EEC consumer policy and on the multinational infant formula episode.

As being a consumer, and, as such, having certain rights and responsibilities, is common to all living persons we must expect such developments as the

International Consumer Guidelines of the UN as being modest precursors of a latent globalization of consumer affairs. While there was astonishingly little by way of research behind the Guidelines there is a great need to undertake integrative research at the inter-nation interface level to furnish the base for future transnational private and public policy efforts.

The International Organisation of Consumer Unions (IOCU) and the World Health Organization are among the bodies who could--and certainly should--support such research. IOCU has but a modest budget; this might be increased by special research assessments on member organizations. Too, there is no good reason why IOCU could not lobby governments, foundations and other groups for this worthwhile cause. All it needs for the IOCU Secretariat to go to work is a little pressure from Consumers Union.

Challenge No. 7: To stimulate integrative consumer research at the inter-nation interface.

SUMMARY

There can be no doubt that international consumer research needs expanding. Developing this theme, we encountered seven challenges worthy of further exploration:

1. Most *country studies* are to be viewed as international research only incidentally and tangentially.
2. More attention should be given to the "*specific differences*" between cultures, or we run the risk that comparative research on consumer ecology loses much of its meaning.
3. What should be the *priorities* regarding subject matter and level of aggregation in international consumer research?
4. *Networking* to build an international team of researchers to conduct your project.
5. To stimulate international consumer research we need to *internationalize U.S. professional groups, universities, and journals*.
6. Need a lot more ingenuity in *funding* international consumer research.
7. Need to stimulate integrative *consumer research at the international interface*.

In closing we may pose the challenge of adding additional items to the list--preferably including follow-up suggestions!

REFERENCES

Boddewyn, Jean (1969), *Comparative Management and Marketing*, Glenview, IL: Scott, Foresman & Co.

Cox, Reavis (1965), "The Search for Universals in Comparative Studies of Domestic Marketing Systems," in American Marketing Association, P. D. Bennett, ed., *Marketing and Economic Development: Proceedings of the 1965 Fall Conference*, Chicago: 143-62. Reprinted in J. Boddewyn (1969), *Comparative Management and Marketing*, Glenview, IL: Scott, Foresman & Co.: 142-60.

Johnson, Denise M. (1987), *Perceived Risk and Information Search in a Hyperinflationary Environment: The Case of Brazil*, unpublished doctoral dissertation, Bloomington, IN: Indiana University.

Thorelli, Hans B. (1981), "Swedish Consumer Policy, Its Transferability and Related Research Implications," *Advances in Consumer Research*, 8: 467-73.

——— (1982), "Chinese Middle Class Consumers Look at Marketing Issues," *Proceedings of the Academy of International Business*: 743-56.

——— (1983), "China: Consumer Voice and Exit," in Ralph L. Day and H. Keith Hunt, eds., *International Fare in Consumer Satisfaction and Complaining Behavior*. Papers from the Seventh Annual Conference on Consumer Satisfaction, Dissatisfaction and Complaining Behavior held at the University of Tennessee, Knoxville, TN, October 17-19, 1982: 105-11.

——— and Sentell, Gerald D. (1982), *Consumer Emancipation and Economic Development: The Case of Thailand*, Greenwich, CT: JAI Press.

——— and Thorelli, Sarah V. (1977), *Consumer Information Systems and Consumer Policy*, Cambridge, MA: Ballinger.

CONSUMER EDUCATION: CLOSING THE CREDIBILITY GAP

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The MICHIGAN AGENDA FOR CONSUMER EDUCATION, a public-private partnership, conducted surveys with Michigan public high school principals, teachers and students to access the current status and needs in consumer and personal finance education. The data will be used to guide program development and to provide benchmarks to measure program effectiveness.

THE MICHIGAN AGENDA

The MICHIGAN AGENDA FOR CONSUMER EDUCATION is a program designed to strengthen consumer and personal finance education and to promote its importance. The MICHIGAN AGENDA is a public-private partnership with business, education, government, labor and community leaders.

MICHIGAN AGENDA leaders believe that consumer education has yet to take its rightful place in the mainstream of Michigan education. Increased awareness, coordination and focus are needed so that all citizens have opportunities to gain consumer knowledge and skills in elementary, secondary and adult educational experiences.

In order to document the current status of consumer and personal finance education, and to provide benchmark data for MICHIGAN AGENDA program development and evaluation, surveys were conducted with Michigan elementary and secondary teachers, high school principals and students during the 1987-88 school year.

SURVEYS AND OPINION POLLS

High School Student Opinion Poll

Procedure. In November 1987, Project Outreach of the Michigan State Board of Education conducted the "Third Annual Opinion Survey of Michigan High School Students" (N=4,388). This annual collection of opinions of high school students toward their schools is obtained by administering a written questionnaire to a representative sample of tenth and twelfth grade students. Consumer education and personal finance questions were written and submitted to Ned Hubbell, Director of Project Outreach, by Dulmes and Bannister.

Results. Nearly nine out of every ten (87%) of the high school students polled agreed that high school students should have the opportunity to take a personal finance course before they graduate from high school.

The majority of high school students selected five major topics of interest to them in learning about personal finance. Those five personal finance topics include: budgeting (72%), employment (68%), income (66%), savings (65%), investments (55%).

When given a list of skills and programs offered by schools and asked whether each topic should receive more emphasis, 70 percent of the high school students polled felt schools should give more emphasis to "managing personal finances". This amount is significantly higher than the 48 percent who wanted more emphasis on personal finance in 1985 (MASB JOURNAL, 1986).

Consumer and Personal Finance in Michigan High Schools

The current Michigan public high school policies and course offerings in consumer and personal finance education were obtained through a mail questionnaire sent to each public high school principal in December 1987 (Dulmes, 1988).

Consumer Education Results. Almost one-fourth (23%) of the Michigan public high schools "required" their students to take a consumer education course to meet graduation requirements (N=592). Almost three-fourths of the high schools (74%), "offered" a separate consumer education course in one or more departments. One-third (33%) of the high schools reported that consumer education units were taught within one or more other courses. Consumer education concepts seemed to be integrated in the departments of home economics, business, and social studies, in descending order of occurence.

Personal Finance Results. Almost one-third (32%) of Michigan public high schools "offered" a personal finance course (N=592). One-fourth (25%) of these schools who offered a personal finance course "required" it for high school graduation. Only 8 percent of the high schools "required" a personal finance course for graduation.

As found with consumer education concepts, personal finance concepts were often taught within other courses. When offered, personal finance courses and concepts were usually taught in home economics and business departments, followed by offerings in social studies and math departments.

Teacher Opinion Polls

Procedure. Teacher opinions about the importance and current status of consumer education in Michigan were obtained through two opinion surveys. In November 1987, a random sample of 200 elementary and 200 secondary teachers were interviewed by telephone by professional interviewers with

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Project Outreach of the Michigan State Board of Education (Project Outreach, 1988).

Elementary Teacher Poll

Consumer Education in Elementary Schools. Consumer education was taught in only about one-fifth (22%) of Michigan's elementary school classrooms, according to the survey of elementary school teachers. Where consumer education was taught, its concepts were woven into the curriculum of most of the elementary grades. Most of the elementary teachers (92%) who offered any instruction in consumer education said it was infused into the curriculum rather than taught as a separate subject. If consumer education topics were taught, it was either during mathematics instruction or as a part of social studies.

Support for Consumer Education. Elementary teachers were overwhelmingly convinced, 88 percent believed students should first be taught about money at the elementary school level, rather than in the secondary schools. However, three-fourths of the teachers (79%) said they spent "less than one hour per week" on consumer education concepts. Only 9 percent of the respondents said their school administrators gave them a "great deal" of support to teach consumer education concepts.

Reasons For Not Teaching Consumer Education. Elementary teachers who did not teach any aspect of consumer education gave two major reasons for this: "not appropriate for my grade level" (31%) or "lack of time to fit that into the curriculum" (27%). Other reasons given by the respondents included "not in my area of expertise" (18%) and "guidelines set--not part of curriculum" (16%).

Concepts Taught. Key aspects of consumer education taught at the elementary level, according to the survey respondents, are: what is money (84%), why people need money and how they get money (81%), how to make choices (77%), how to make change (75%). Slightly over half (53%) of the elementary teachers who taught consumer education concepts, also said they taught students the concepts of saving and setting goals as opposed to immediate spending.

Student Interest. If there is one topic that interests students most about consumer education, according to the elementary teachers polled, it is "how to make choices" (53%). Students are also interested in learning about money--how to manage it (30%), why people need it and how they get it (26%), what it is (16%), and how to do comparison shopping (13%).

Secondary Teacher Poll

Preparedness of Today's Graduates. In the opinion of the 200 secondary teachers polled, today's high school graduates are not very well prepared in the area of personal finance. Only 10 percent of the teachers polled felt today's graduates were well prepared.

The majority of secondary school teachers (60%) agreed with the vast majority of the elementary teachers (88%) that consumer education and personal finance skills should first be taught at the elementary school level.

What Students Need to Know About Personal Finance. When read a list of personal finance topics, secondary teachers ranked the topics that every student should know before he or she leaves high school. The following prioritized list of personal finance topics are in descending order of importance:

Savings and interest	93%
How to get/use credit	93
Financial rights, responsiblities of borrowers	92
How taxes affect consumers	92
How to budget	92
Ways to earn money	91
How goals affect financial plans	90
How to obtain banking services	88
How income affects lifestyle	87
How to evaluate types of insurance	82

What is Taught. In an effort to find out what secondary teachers teach in personal finance, an open-ended question was asked. The topic mentioned most frequently was "budgeting," named by 30 percent of the respondents.

Administrative Support. Most of the secondary teachers polled felt there was only "some" administrative support (48%) for teaching personal finance.

SUMMARY

High school students have significant interest in learning about managing personal finances, yet less than one-third of Michigan high schools offer a course in personal finance. Teachers agree that more consumer education should occur at the elementary level, yet most elementary teachers spend less than one hour a week on the topic. This and other data point to significant unmet needs and opportunities for educators and policymakers to work together to promote consumer and personal finance education in Michigan schools.

REFERENCES

Dulmes, Patricia A. (1988), Consumer and Personal Finance Education In Michigan Schools: A Summary Report of Surveys and Opinion Polls, Ypsilanti: Michigan Consumer Education Center, College of Education, Eastern Michigan University.

(1988), How Michigan High School Students Rate Their Schools: Third Annual Opinion Survey of Michigan High School Students, Lansing: Project Outreach of the Michigan State Board of Education.

(June 1986), "How Michigan Students Rate Their Schools," Michigan Association of School Boards Journal, 20-23.

(1988), Opinions of Michigan Teachers About Consumer Education, Lansing: Project Outreach of the Michigan State Board of Education.

MONEY MATTERS AT DIVORCE

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It is currently projected that 40 percent of persons born in the 1970's who marry will experience at least one divorce during their lifetimes. About 60% of divorces involve dependent children.

CONSUMER ISSUES AND CONCERNS IN DIVORCE SETTLEMENT

Divorce is a complex emotional, legal and economic process which requires couples to make many decisions that will not only end the marriage, but will have substantial impact on their futures. Divorcing couples are often unprepared to deal with the financial implications of divorce and may not have collected the personal and financial information necessary to make informed decisions. Experience in Wisconsin indicates divorcing individuals need assistance in the following areas:

- o Tracing the history of complex monetary transactions and identifying assets as marital and nonmarital property.
- o Locating and valuing tangible and intangible assets and proving value including contributions to creation of marital assets.
- o Recognizing and reducing tax consequences of divorce settlement.
- o Maximizing marital resources while minimizing divorce costs.
- o Achieving property division balance between marital partners.
- o Estimating the post-divorce cost of living for two households.
- o Allocating responsibility for marital debts.
- o Organizing financial material so that it is useful in the divorce process.

Money Matters at Divorce: A Guide to Financial Decisions is designed to help people understand the economic decisions that accompany divorce and what information is needed to make those decisions. The Guide focuses on the areas listed above with emphasis on estimating post-divorce cost of living, dividing property and debts, spousal maintenance and child support.

Property Division

In no-fault divorce, it is presumed that most property will be divided equally between spouses. This presumption can be changed after considering factors such as age, health, education of each party and the length of marriage as well as each person's contributions to it. It is important to locate and value that property which is marital property and subject to division. States differ on what is classified as marital and on the time for valuation. Couples need to consider the marketability of the properties as well as the tax consequences of the division. Clearly estimating which properties will depreciate and which will appreciate can be strategic to the decision making.

Spousal Support and Estimating the Value of Non-Monetary Contributions Maintenance

The question of spousal support or maintenance arises from each spouse's right to continue to enjoy the lifestyle that existed during the marriage, if feasible. It is not viewed as an automatic, permanent annuity, but as a tool designed to achieve equity and is generally based on need. Consideration is given to length of the marriage, custodial responsibilities, each person's contribution to others earning power, and tax consequences. In Wisconsin, public policy recognizes more than monetary contributions by spouses to the accumulation of property during marriage. Home production may enter into these decisions. The Guide includes information on identifying all sources of income, rights to social security and pension benefits; maintaining adequate health care coverage and valuing homemakers contributions.

Child Support

Financial support of children is the major ongoing obligation of the parents following a divorce. The Child Support Enforcement Act of 1985 mandated that states adopt numerical guidelines for courts to use in settling child support amounts by October, 1987, in order to receive federal funds for child support. Wisconsin has established award levels based on the income of both parents and the number of children in the family and dependent children "of other liaisons."

Standardized tables may not accurately estimate the cost of raising any particular child. In addition, there is evidence that tables applied to a sample of divorce cases in Kansas resulted in awards significantly less than the amount that would have been awarded if the court had applied the USDA estimates for families of similar age, composition and geographic location. Because the USDA estimates are considered to be fairly low and because of evidence that the level of living of children drops considerably following divorce of their parents, Money Matters provides extensive assistance in estimating the cost of raising a particular child.

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CHANGE IN ECONOMIC VALUE OF HOUSEHOLD CONTRIBUTIONS AMONG WORKING MEN AND WOMEN: APPLICATION IN THE COURTROOM

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ABSTRACT

Two ways of calculating economic loss of household services in cases of personal injury, wrongful death, and dissolution of marriage are the opportunity cost method and the replacement cost method. It is possible that increased women's labor force participation and increased use of labor-saving devices has diminished the amount of time spent in household tasks. This would, in turn, reduce the economic value of women's household contribution. Methods of determining loss of household contribution and generalization drawn from courtroom testimony are presented.

The legal system is finally beginning to acknowledge that women should be granted economic equality under the law. In recent years, attorneys have been consulting family economists to determine the market value of their clients' homemaking services in cases of personal injury, wrongful death, and dissolution of marriage.

The opportunity cost method and the replacement cost method are two ways of calculating the household contribution of individuals in these situations. The application of the methods, however, is different in the three cases. In wrongful death and personal injury cases the calculated economic value of the household services is projected through the lifetime of the dependents and then the present value of this future income stream is calculated. In the case of divorce, the past income stream contributed by the spouse is calculated.

OPPORTUNITY COST

The opportunity cost method considers what the person could do if entering the labor force. The question asked is, "What other job could the person have done and what is its market value?" This method assumes that the person is worth the dollar amount that is earned in the labor force. Generally, the more highly educated the person, the greater the opportunity cost. Conversely, the less educated the person, the lower the opportunity cost, and therefore, the lower the replacement cost (Hauserman and Fethke, 1978).

REPLACEMENT COST

In the replacement cost method, the cost of hiring specialized workers (at local wage rates) for the various homemaking tasks is determined. The steps used to calculate replacement costs are: (1) identify the homemaking services performed, (2) determine the amount of time in services performed, (3) find an equivalent market job wage per hour, and (4) compute the equivalent market value. These equivalent market jobs may vary depending on the actual tasks done and the local market condition.

There are a few limitations to the replacement cost method. First, this method considers only one task at a time ignoring concurrently performed tasks. Secondly, the quality of household work performance is not taken into consideration because quality is a subjective concept. Finally replacement costs are calculated only for those tasks that can be measured and are done regularly. These may result in an underestimation of the economic value of the loss.

APPLICATION IN THE COURTROOM

The family economist, as the expert witness, is hired to assess the economic loss of household services to the family. To determine this, the family economist would interview family members and/or others who have observed the household contributions of the individual in question. Based on the interviews, the household tasks performed and the average time spent doing these tasks would be determined. Results of past time studies would be used to verify the figures provided by the family members. Either the opportunity cost method or the replacement cost method would be used depending on the specific case.

Based on our previous experience as expert witnesses we have drawn several generalizations: (1) Regardless of gender, the woman always contributes more to the household. Past time studies have indicated that women did most, if not all, of the household tasks (Walker and Gauger, 1973). More recent studies reveal that household work still remains the domain of the woman (Sanik, 1981; Consumers Union News Digest, 1987). (2) Families of nonworking wives lose more (in terms of household contribution) than those of working wife families. Nonworking wives have more time to spend in household activities. Although working wives also contribute to household activities, they do less than nonworking wives. (3) Younger men contribute more to the household than older men. This is, in part, due to changing attitudes among young men today who are more willing to help their spouse at home. Younger men are more likely to make some contribution in the area of food preparation. This may be the result of the presence of a working wife and the presence of labor saving devices such as a microwave oven. (4) Men contribute more to the household work when their wife works outside the home. This trend has been observed in several families. The area in which men are consistently more likely to contribute time is in the area of child care. The second greatest area of contribution is that of house maintenance and repair, followed by yard care. (5) Men with more education contribute more in terms of household services than men with less education. These men tend to view their marriage as being a more equitable partnership and therefore view household work less negatively.

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REFERENCES

Hauserman, Nancy R. and Fethke, Carol. Valuation of a Homemaker's Services, Trial Lawyer's Guide (1978) Annual, pp. 246-66.

Walker, Kathryn E. and Gauger, William H. The Dollar Value of Household Work, Consumer Economics and Public Policy No. 5, Information Bulletin 60, Cornell University, Ithaca, New York, June, 1973.

Sanik, Margaret Mietus. Division of Household Work: A Decade Comparison - 1967-1977, Home Economics Research Journal (1981), pp. 175-180.

Women Still Holding Down the House, Consumers Union News Digest, Vol. 12, No. 16, August 15, 1987, p. 12.

THE RELATIONSHIP BETWEEN WOMEN'S TIME AND GOODS

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While we know a great deal about how the value of female time affects the work behavior of women and how they allocate their time among household activities, we know a great deal less about how female wage rates affect consumption patterns. Yet, the rising value of female time has been one of the more important recent economic trends. Female wage rates have risen relative to the prices of goods and services for at least the past 30 years. Since 1955 female wage rates have risen at the rate of 6.5 per cent per year while the prices of goods and services (as measured by the implicit price deflator for Personal Consumption Expenditures from the National Income and Product Accounts) have risen at the rate of 4.8 per cent annually. In contrast, the permanent income of households not earned by females has been almost constant for the past 30 years.

A question raised by such trends is whether and to what extent American households have substituted goods and services for female time in household activities as the value of female time has risen relative to the prices of goods and services. Research currently underway by the author and Yan Wang, also of Cornell University, is seeking to answer this question. We have broken quarterly Personal Consumption Expenditures per household from 1955 to 1984 down into Durables, Nondurables and Services and have also broken these three categories down into 13 sub-components. Simple demand functions have been estimated for each of the three aggregate groups and also for each of the 13 sub-groups. The price index for the group or sub-group, the female wage rate, and permanent income per household not earned by females are the arguments of each demand function.

Preliminary estimates indicate that each of the major groups (durables, nondurables and services) are substitutes for female time as measured by the female wage rate elasticities of demand. Holding prices and permanent income not earned by females constant, a 10 per cent increase in female wage rates would induce a 4.0 per cent increase in the demand for durables, a 1.4 per cent increase in the demand for nondurables, and a 2.2 per cent increase in the demand for services. Clearly, durables consumption is most responsive and nondurables consumption is least responsive changes in the value of female time.

These results are almost what one would have expected. It might have been supposed that the demand for services would have been more responsive to changes in female wage rates than durables since durable goods, however "time-saving," still require someone to operate them. But, these findings seem consistent with the fact that the time the average female spends in household work activities has trended downward quite slowly over time. Had the trend downward in the time spent by females in household work been more rapid, either services consumption would have had to rise more rapidly to replace the lost female time or men would have had to spend much more time in household work. Neither appears to have happened--yet.

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TIME ALLOCATION AND CHANGES OF WORKING WIVES' AND HUSBANDS' HOUSEHOLD PRODUCTION

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This paper is part of the Roundtable Panel, "Change in Economic Value of Household Contribution Among Working Men and Women." A summary of time allocations to household production is presented. Issues on measuring value of time are discussed. Data from S-191 project, Farm Wife's External Employment, Family Economic Productivity and Functioning, illustrate value of homemaker services.

Research on time allocation to household production has reached the point where some broad generalizations can be observed. The most important one is that wives' contribution to housework has always been substantial and has remained so despite external employment. Family size (Walker and Woods, 1976; Nickols and Metzen, 1978; Hafstrom and Schram, 1983) or number of children (Berardo, Shehan, and Leslie, 1987) and employment time (Vanek, 1974; Nickols and Metzen, 1978; Hafstrom and Schram, 1983) are the most important determinants of wives' time in household production. Employed wives allocate about 4.8 hours per day to housework, over one-half that of other wives (Walker and Woods, 1976; Geerken and Gove, 1983). Time allocations of husbands to household work has remained fairly constant over time (Coverman & Sheley, 1986), although Sanik (1987) has noted a slight increase in time for child care.

ISSUES

In order to make progress in measuring the economic value of household activities, three major issues deserve attention of consumer professionals: methodological problems in measurement of time; classification of household production activities; value per se.

Methodological

Data collection by diary or recall each have positive and negative aspects. Asking respondents to report time spent in different activities is usually an estimation of his/her perception of one point in time and has all the inherent problems of recall. Recording time as it is used puts a burden on the respondent, may affect what activities he/she does, and may be biased by the fact that a certain type of person is willing to record data in this way. Also, it is difficult to determine time spent on particular tasks in that participants must record a primary task when they are involved in more than one activity. Time allocations are reported in hours and minutes; hours per day, week, or year; percent of total time, household time, total work, etc. These differences in units of measure hamper comparisons.

Classification of Household Production

Household activities are measured in different ways. Household production may be defined as things done in and around the house, as housework, or as a list of specific activities, for example. Some estimates include child care and others include yard or garden work. In other research, it is difficult to determine what is actually being measured. To complicate the meaningful comparison of findings, some household activities data are reported as time allocations and others as task allocations.

Value of Contributions

There are three basic ways to estimate the economic value of contributions to household production: opportunity cost method, market cost method, and the replacement cost method. Using the opportunity cost approach, the amount of income the homemaker has sacrificed from her former occupation by choosing to stay at home is calculated. The weakness of the opportunity cost approach is that it places a greater value on the home services of women who had high-paying jobs than on the same services provided by women who gave up lower-paying jobs. This approach is rarely used except in cases where the woman has sacrificed an "extraordinary talent" in art or music.

By using data for occupation of wives living on Illinois farms to calculate opportunity cost of homemaker services, we estimate that this cost would range from $135 per week for those with lower education (less than high school) to $750 per week for those with higher education (up to 18 years)--a wide range in value of services.

The market cost approach lists different types of work a homemaker performs and the number of hours per day spent performing each job. Hourly wages for hiring a person to perform each task for the same amount of time is calculated. Job categories included in calculation of the market cost are: dishwasher, cook, seamstress, laundry person, practical nurse, domestic help or janitor, interior decorator, secretary, and bookkeeper. For women living on farms, the cost of a hired hand to feed animals or drive equipment would be included. Our data on how farm families allocate their time also can be used to illustrate calculation of the market cost. Time spent in home-related services varies for husbands and wives (see Table). Task categories are based on those of Walker and Woods (1976).

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TABLE. Average Time Spent in Household Work Categories by Husbands and Wives (S-191 Farm Data, 1985)

Household Work	Average Hours Per Week	
	Husband	Wife
Human Care		
Nursemaid	2.3	4.9
Practical Nurse	1.3	3.5
Meal Preparation		
Cook	1.5	15.1
Server & Dishwasher	1.4	8.6
Clothing Care		
Laundry	1.3	7.4
Seamstress	.9	2.5
House Care		
Housekeeper	1.6	13.4
Marketing & Managing		
Food Buyer	3.0	4.2
Shopper	1.8	2.9
Other		
Gardener	2.6	4.0

By using these data, the current minimum wage of $3.35 per hour, and the estimated local dollar rate per hour, the "weekly worth" of homemaking services for the wife are calculated to illustrate this approach. The wife's services vary from $29.55 for Human Care, $92.99 for Meal Preparation, $48.30 for Clothing Care, $44.89 for House Care, and $28.57 for Marketing and Mangement to $13.40 for Other. The total "weekly worth" of homemaker services on the average for farm wives thus comes to $257.70.

The most common way to estimate the value of homemaker service is the "replacement cost" method, which calculates the cost of hiring one full-time housekeeper to perform the work done by the homemaker. By using the current minimum wage rate and estimating that a full-time housekeeper would work 66.5 hours per week, the "replacement cost" of the homemaker comes to $222.78 per week.

In calculating the value of household production by each of the three different methods it is evident that there are substantial differences among the total values. The value of household services of farm wives could vary as much as $600 per week depending upon the method of computation chosen. These differences are a reflection of how society views the worth of household production. This is an issue of national importance, deserving the concern of our best thinking and study. The implications for practitioners in education and in providing expert testimony also merit attention from the research community.

REFERENCES

Berheide, Catherine W., Sarah F. Berk, and Richard A. Berk (1976), "Household Work in the Suburbs," Pacific Sociological Review, 19: 491-517.

Berardo, Donna H., Constance L. Shehan, and Gerald R. Leslie (1987), "A Residue of Tradition: Jobs, Careers, and Spouses' Time in Housework," Journal of Marriage and the Family, 49: 381-390.

Coverman, Shelley, and Joseph F. Sheley (1986), "Change in Men's Household and Child-Care Time, 1965-1975," Journal of Marriage and the Family, 48: 413-422.

Geerken, Michael, and Walter R. Gove (1983), At Home and At Work: The Family's Allocation of Labor, Beverly Hills, CA: Sage.

Hafstrom, Jeanne L., and Vicki R. Schram (1983), "Housework Time of Wives: Pressure, Facilitators, Constraints," Home Economics Research Journal, 11: 245-255.

Johnson, Phyllis J., and Francille M. Firebaugh (1985), "A Typology of Household Work Performance by Employment Demands," Journal of Family Issues, 6: 83-105.

Nickols, Sharon Y., and Edward J. Metzen (1978), "Housework Time of Husband and Wife," Home Economics Research Journal, 7: 85-97.

Sanik, Margaret M. (1987), "Changing Roles of Parents: How Do They Balance Family and Work Time?" Paper presented at Family Economics-Home Management Preconference Workshop, American Home Economics Association.

Vanek, Joann (1974), "Time Spent in Housework," Scientific American, 23: 116-120.

Walker, Katherine E., and Margaret E. Woods (1976), Time Use: A Measure of Household Production of Family Goods and Services, Washington, DC: American Home Economics Association.

A NEW CONSUMER'S BILL OF RIGHTS

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This presentation was designed to stimulate discussion concerning new concepts in the principles of consumer protection

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One of the of the most striking features of the field of consumer protection is the lack of any widely accepted set of underlying principles for action in the area of consumer protection. Kennedy's four principles; the right to information, the right to safety, the right to choose and the right to be heard are so vague that they can be cited by both sides in any consumer policy argument. Some argue that consumers have the right to choose unsafe products, whether they be handguns, all-terrain vehicles, tampons or saccharine. Several federal appeal courts have decided that when Congress gave information on cigarette hazards in 1966, it meant to take away any right to compensation for such injuries.

The purpose of this discussion is to propose a series of underlying principles for debate, analysis, acceptance, replacement or rejection. Naturally, any such proposed list is somewhat arbitrary, and reflects the concerns of any specific time. However, by drawing on both academic sources and real world success stories it should be possible to pose a tentative list which would stimulate both academic research and public policy.

Public policy tends to be made in a politically charged environment. However, just as the concept of a "free market" has given some political figures intellectual support for their political orientation, it is equally possible that a well defined set of principles could organize political support for improved consumer welfare. In addition, it could give direct assistance to court and administrative agencies struggling with doctrines of unfairness or unconscionability.

The rights proposed in this paper are based on three principles:

A) Consumer choice is a means to greater consumer welfare, not an end in itself

B) Neither the private sector nor government have an inherent advantage in protecting consumers

C) However efficient the marketplace is at production and distribution of goods and services, it relies on social determination of the original distribution of wealth

1) Consumers are entitled to the greatest choice of goods and services consistent with socially acceptable minimum standards of quality and safety.

2) Deception of ignorant or credulous consumers is unacceptable.

3) The right to be heard includes the right to technical support and legal assistance to make such hearing meaningfull

4) The cost of injuries associated with socially desired products should be spread to all consumers. Compensation should be payable to consumers injured by the reasonable use of such products.

5) Unlawful behavior by business enterprises should be punished sufficiently in excess of the profits earned by such behavior to deter such conduct.

6) In each business, there should be management officials personally responsible for compliance with consumer protection regulations

7) Society has a non-delegable responsibility to protect children, the elderly and the handicapped.

8) Information is an inadequate consumer protection tool in the absence of a meaningful choice.

9) Information shall not be used to deny compensation for the reasonable use of socially acceptable products.

10) Economic analysis must take into account distributional equity in making cost benefit analysis of consumer programs. Since it always costs money to make wrongdoers correct their mistakes, any analysis shall separate such costs from the costs and benefits to consumers.

11) Consumer choice does not include the right to impose injuries or costs on other consumers without their consent.

12) All categorizations of consumers by business are subject to social control for reasons of both efficiency and equity.

13) Intellectual property, such as patents, copyrights and trademarks are given protection solely to increase consumer welfare.

14) The cost to consumers of government policies should be determined, whether or not such cost is part of the government's budget

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DEVELOPMENT OF EXPERT SYSTEMS FOR FAMILY RESOURCE MANAGEMENT

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Businesses will spend billions of dollars over the next ten years developing expert systems (Kupfer 1987). For $688 one could buy the program "Criterion/STS", which is supposed to help investors decide when to buy and sell stocks (Criterion 1987). Expert systems have been used by some government agencies, businesses, and in medicine. American Express uses an expert system to help employees decide whether to authorize credit card transactions (Kupfer 1987). At Ford, an expert system replaced a 1,000 page robotics manual (Stone 1987). One program can diagnose pulmonary function disease (Hayes-Roth, Waterman and Lenat 1983). Other applications include factory floor production scheduling and preparation of capital spending proposals (Weiszmann 1987) and diagnosis of 500 possible internal medicine types from 4,000 possible situations (Arnold and Bowie 1986).

In the past, expert systems have not been applied to problems faced by individual households because of the limited availability of computers. Now, however, the introduction of the 386-based personal computer promises to widen the applications of expert systems (Angus 1987). Simple expert systems can be developed on older personal computers (Siegel 1987a), but more useful expert systems will probably require fast processing speeds and access to large amounts of data. An extreme example is a model used to help determine whether to allow oil exploration on the Alaskan North Slope, which required between an hour and 2.5 hours on a 10 MHz AT-compatible computer (Taylor and Taylor 1987). For one expert systems program, the reviewers suggest that you read War and Peace while the computer is performing calculations.(Taylor and Taylor 1987).

There are several categories of expert systems, including interpretation systems, prediction systems, diagnosis systems, repair systems, instruction systems, and control systems (Hayes-Roth, Waterman and Lenat 1983). For instance, a repair system might diagnose a problem with an automobile and recommend a specific repair strategy (Hayes-Roth, Waterman and Lenat 1983). Expert systems have been developed for problems for which there are human experts. Human experts should have the ability to learn from experience, reconceptualize, acquire general knowledge, and reason by analogy (Brachman et al. 1983). If effective human experts exist, an expert system can be developed by identification of the knowledge base and reasoning process of the human expert (Brachman et al. 1983).

Computer expert systems can assist human experts, or perhaps directly assist consumers. "Traditionally, the transmission of knowledge from human expert to trainee has required education and internship years long." (Hayes-Roth, Waterman and Lenat 1983). Expert systems could enable paraprofessional staff in financial counseling centers and cooperative extension offices to work with more clientele than would be possible for professional staff to reach.

Maims for constructing expert systems include:

> Focus on a narrow specialty area that does not involve a lot of commonsense knowledge.
>
> Select a task that is neither too easy nor too difficult for human experts.
>
> Record a detailed protocol of an expert solving at least one prototypical case.

(Buchanan et al. 1983).

A variety of software is advertised as artificial intelligence, expert systems, or decision-making programs, with prices of $99 to $500 (Siegel 1987c) or higher. Some of the programs merely provide a structured procedure for input of criteria and features for choosing the best alternative in the manner of Maynes (1976) method of defining product quality. These programs could "... help you choose the car that best suits your needs, locate the nicest home you can afford ... " (Siegel 1987b).

Other programs simply provide a structure for a series of "if ... then ..." statements, which could be applied to deciding which shipping service to use, etc. (Siegel 1987a). Some programs provide for specialized optimization techniques, such as linear programming, while others provide for simulations (Taylor and Taylor 1987). Decision rules to deal with uncertainty (Maynes 1976) can be implemented in many programming languages or on spreadsheets.

One difficulty with many lower cost computer programs is the tremendous demands put on the user for feeding in information. For instance, in order to use a decision matrix or decision tree, one should know probabilities if one is to use the decision rule of maximizing expected utility. Some expert systems software provides for linkages with popular databases such as Dbase (Mace 1987). In order to make expert systems usable by inexpert consumers, information demands on the user need to be kept low. If goals are complex and heterogeneous, an expert system must query the user to ascertain individual goals. It is simple to identify the lowest priced life insurance policy, but it is a much more complex task to identify both the policy and the amount which will best suit the needs of a particular family.

Discussion at the roundtable included definitions of expert systems for family resource management and topics for applications, such as financial management.

The reference list is available from the author.

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REVIEW OF MULTI-NATIONAL CORPORATIONS AND THE CONSUMER

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This note is a background Study of work on Multi-nationals setting out their areas of operation, their scale of working and of profit, all derived from their annual reports for 1987. This encompasses Auditors, Board memberships, and ownership. The growth of Japanese Corporations is noted especially in the Electrical Industry and the importance of Banking support recorded. The note does not draw conclusions but does emphasize areas where questions may be asked.

Multi-national groups have existed in business, in manufacturing and trading for all of this Century. Based in Western Industrial nations they have grown and extended, selling goods in under-developed Third World countries, as well as extending their activities into other major manufacturing countries. More such Corporations have come into being as technology has created more specialised processes, and complex products and many of the Multi-national Corporations have production processes, or design Departments away from their main base as well as distribution systems that are truly international.

Consumer organisations have expressed concern over this phenomenon and here are regular presentations and lobbies at the United Nations seeking Codes of Conduct for Trans-national Corporations.

Especial problems arise in the marketing of Drugs, of specialist foods in particular dried milk and of differential pricing. High profits are alleged, and a tangled web involving Finance, Insurance, Technology and consultancy can be easily discerned.

This paper sets out some of the characteristics that appear to exist amongst a sample of 150 Multi-nationals to serve as background for other work.

The base from which the Corporation work is shown:

National bases

United Kingdom	49
United States	49
Japan	16
Other	34

The final group includes Germany, Sweden and France.

Some of these Corporations simply trade internationally, others manufacture within a wide range of countries using wholly owned subsidiaries.

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[1] Vice-President

The business involved are wide-ranging, traditionally including oil and metal extraction, construction of all possible kinds, food and agriculture and now including the electronics industries, of which computing is especially important, service industries including finance and banking, air transport and Hotels.

Commercial Sector

Sector	Number
Manufacturing Industry	39
Electrical	30
Trading	24
Food	19
Finance	10
Energy	8
Pharmaceutical	6
Transport	6
Construction	3
Hotels	1

Despite the diversity of interest, there are many common activities, as is shown later. No corporation with a turnover of less than billion annually is included, and the largest is more than $b100, which is more than the maximum only two years ago.

The following tables show the largest Corporations and which are expanding and contracting. This data is confused by changes in exchange rates, and the impact of the Market upon particular industries. However it does convey the flavour of the Multi-national world which is very different from the usual local Consumer world.

What is big?

Corporation	Turnover $b Annual	Business
General Motors	102.8	Automobiles
Sumitomo	81.7	Banking and Trade
Exxon	76.6	Oil
Ford	62.7	Automobiles
British Petroleum	47.2	Oil
I.B.M.	46.96	Computers
E.N.I.	40.0	Oil
N.T.T.	33.49	Telecom
B.A.T.	32.58	Trading
Fiat	30.46	Automobiles

It can be seen directly that these turnovers are of the same order as those of smaller nation states and it is in this context that they should be read. Italy, Japan, United Kingdom and the United States all have Corporations based within their confines that have activities far beyond them. This is mere sample of an extending group of Corporations not merely in the large Western communities but now world wide that now take up a large part of some industries.

For these Corporations, world trade, exchange rates, technological advance are all central to their affairs, they are a group of modern industrial and commercial baronies able to negotiate between themselves, settling prices, terms of trade and standards of performance without the essential participation of Governments or users. It is however important to realise that some national groupings such as NATO do compete since they are very large customers.

Regularly, there are changes that produce increases or decreases of work represented formally by financial turnover, and may also have effects upon profit but not necessarily in the same direction.

Growth Rates

Corporation	Change % annual	Business
Unisys	90	Computers
Bell	90	General Trade
Hanson	61	General Trade
Pilkington	59	Glass
Fiat	39	Cars
Elders	38	Brewers
Walmart	35	Retail
TWA	34	Air Travel
Hillsdown	30	Food/Furniture
Glaxo	27	Pharmaceuticals

Decline

British Petroleum	32	Oil
Chevron	30	Oil
Schlumberger	28	Oil
Exxon	21	Oil
Steyr	18	Car Components
Veba	16	Energy

This table is affected both by World prices, especially of oil, but also of commodities, by major public policy changes, especially in energy and other types of conservation. Is it any surprise that these Multi-nationals are interested in political action?

Declared profits change too, responding to changes in total sales, exchange rates, State policies, and convenience. Accounting standards are not uniform, subsidies may be available to support particular nations as in Airlines or national groupings as in agriculture. Within these limitations the following table is interesting.

Profitability

Corporation	Change of declared Profit % increase	Profit % of Turnover	Business
Glaxo	22	43	Pharmaceutical
British Petrol	50	29	Oil
Honda	-43	29	Cars
Merck, Sharp, and Dohme	20	24	Pharmaceutical
British Telecom	12	19.4	Electronics
Lucas	40	18	Electronics
Coca Cola	42	17	Food
British Oxygen Gases	30	15	Industrial
Trust House Forte	10	14	Food
Warner Lambert	-	14	Pharmaceutical

The table illustrates the kinds of business in which profits are high, and where thrusting groups can expand, often with a small number of large customers. Pharmaceutical profits will reflect large market penetration by a small number of successful and prestigious drugs, Electronic profits flow partly from defence contracts and in one case from the preparation to market State-owned shares publicly. Performance in successive years may be less impressive.

The Corporations in this survey are usually owned by share-holders who trade on Stock markets, in New York, Tokyo or London. Some of the European Corporations are heavily controlled by Banks where there may be substantial State influence, others may be wholly or partially owned by the State or may have State institutions as principal customers or clients. In these circumstances, the "free market" is a heavily qualified term. Some British Corporations publish share-holder profiles and these show the relatively small part played by individual share-holders. Institutions, Funds, Banks and other Corporations are central to a rather incestuous structure.

Shareholders by Type

Corporation	Individuals	Insurance Pension Funds	Banks Corporations Universities
United Biscuits	14	20	65
Lloyds Bank	23	20	56
Midland Bank	32	18	50
British Aerospace	9	53	37
Cadbury-Schweppes	17	20	62
B.A.T.	18	20	62
Bowater	13	42	44
Tesco	17	8	75
Unilever	18	25	57

This shows clearly that there is relatively little personal share-holding although people through their pensions and insurances do have a real interest in the performances of Corporations.

Fund managers have real influence on the supply of cash for growth.

The next tables show how this is monitored by Auditors.

Auditors

Firm	Number of Audit Reports		Position in International Table of Auditors	
	No.	%		Turnover $m.
Price Waterhouse	15	29.4	3	282
Ernst and Whinney	8	15.6	5	214
Cooper Lybrand	8	16.6	2	310
Peat, Marwick McLintock	7	13.7	1	419
Arthur Anderson	5	9.3	7	312
Touche Roche	4	7.8	6	221
Deloitte	4	7.8	4	244

Many of these great partnerships are also concerned with management consultancy and achieve total turnovers of up to $1000m annually. They are just coming to the minimum size of the International Corporations that are listed here.

So that these Corporations are large, international either in production, distribution or design. They are financed through and supported by International Banking Institutions often with State connections or indeed directly owned. The directing Boards interlock in the same manner as the auditing and a sample is shown.

Whilst Corporations do have their own Corporate officers as Board members it is usual to appoint Corporation Presidents from non-related groups to add their corporate wisdom to the board deliberations along with newspaper publishers, College Presidents, retired politicians (especially from the Defence sector) Corporation Lawyers and audit partners (from other firms of accountants).

Directors

Corporation	Corporate Officer	Director (other) Corporation	Banker	Politician	University President or Professor	Lawyer	Accoun.
Coca-Cola	2	6	3	0	2	1	0
Chevron	4	5	1	0	0	2	0
United Technologies	8	8	2	1	1	0	0
IBM	9	7	1	1	2	3	0
General Dynamics	9	4	1	0	0	1	1
ICI	9	3	3	1	0	0	0
General Motors	7	9	3	0	2	0	0
Exxon	6	7	1	0	3	0	0
ITT	4	9	1	0	0	0	0
Ford	8	7	4	0	0	0	0
Chrysler	6	11	0	1	1	1	0
General Electric	2	10	3	1	2	2	1
Warner Lambert	3	10	0	0	2	0	0
Boeing	3	8	2	0	0	0	0

This situation was first noted within American culture by Wright Mills many years ago and more recently by Kenneth Galbraith. It is now International. There are British advisers to American Boards, Japanese members of British Boards, American members of British Nationalised Corporations and so on. The interlock between Corporations, banks and professional advisers is not yet complete but the pattern is clear.

All this information has implications for people as citizens, as consumers as tax-payers and as public representatives.

The principal industries that are clearly international are set out with comment.

Energy includes mainly oil extraction, but also coal and natural gas which not only stretch over the developed and underdeveloped worlds but also between the East and West blocks politically.

Prices have fallen partly because of the recent perception of the need for energy conservation and because of re-aligned currencies.

Electronics including the main electrical fields is the new expanding technology with an impetus that flows from the Far East. Computing and Information Technology are included and these too are moving away from the traditional Western centres.

Growth is dramatic.

Chemicals partly including Pharmaceuticals and Speciality Chemicals is also a growth area subject to substantial acquisition practices that produce increases in scale without necessary increases in output.

Cars are in transition. The automobile industry (except for Volvo) is declining in Western Europe, despite the expansion this year of Fiat and General Motors and growing in the East, not only in Japan but in Taiwan and South Korea.

Retailing has become more international and more concentrated nationally so that with a limited market growth is by amalgamation rather than by the establishment of new outlets.

Food now includes catering and sometimes hotels and food conglomerates which dominate whole styles of eating. They both produce and distribute and have begun to be regarded as the real ambassadors of Western life-styles.

The effect internationally is that new forces, mainly Japanese are emerging as major Industrial participants, establishing new production facilities in the United States and in Western Europe. Not only cameras, cars and reproduction equipment but also banks and investment groups are growing, setting up new-style Institutions likely to affect whole societies.

New investment in the United States is coming from Western Europe and Japan and in some areas (Chemicals) is assuming a major element in growth.

In Europe, the remaining elements of an Aircraft Industry consists of an international consortium with a relatively small total output and with major state support. Real European investment goes to banking and to chemicals outside Europe.

The message is clear enough, major industry is international, so is banking, the excluded areas are in Africa and India which does have a multi-national hotel chain).

Consumers need to recognise this structure and ask important questions.

1. Are the new World products and services Marriott? Sony? or Nestles?

2. Are economies achieved by using low-wage Labour? or by real efficiency?

3. Do the same standards apply globally, in services or in products? How does consumer observation respond?

4. Is quality invariable? Is it true that rejected products in Western Societies are still produced for the other World?

These questions were important one or two decades ago, but as more and more Corporations are multi-national it is more important to question their practices.

BASIC SKILLS FOR PERFORMING COMPUTERIZED DATABASE SEARCHING

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--------------------ABSTRACT--------------------
This paper outlines the basic techniques needed to conduct simple computerized database searches and familiarizes researchers with the most useful search commands available.

With a personal computer, communication software, and a modem, researchers with a password can access databases and compile bibliographies in minutes. Until recently, database searching was available only through an intermediary such as a librarian. Now researchers can do their own searching by using online systems or laser compact discs. Either way, one needs to understand the record structure and the basic commands necessary to direct the computer system to find relevant citations.

SAMPLE RECORD

A record is divided into different fields. Typical fields in a bibliographic record are: title (TI), author (AU), journal name (JN), date (PY), abstract (AB), and descriptors or subject headings (DE). For example:

TI- The Consumer Product Safety Commission's Promulgation of Bicycle Safety Standard
AU- Petty, Ross D.
JN- Jrnl of Products Liability
PY- v10 no1 pp.25-50 1987
AB- May 1986 is the 10-year anniversary of the effective date of the mandatory bicycle safety standard promulgated by the Consumer Safety Commission (CPSC). ...
DE- Regulations; Standards; Bicycles; Product Safety; Product Design; Injuries

SEARCHING COMMANDS

All systems have a basic searching command. The term used can vary from system to system; common commands are SELECT, GET, or FIND. The user types in such a command followed by a search term. For example, in a system using the command "FIND", a user interested in the topic "toys" would type in "FIND toys". Synonyms or similar keywords can be combined using the "FIND--OR" command. For example, using "FIND toy OR toys" tells the system to find records with either term. Several related terms may be combined together in this way, e.g., "FIND toy OR toys OR doll OR dolls OR bicycle OR bicycles".

Search terms can also be combined by using the "FIND--AND" command, e.g., "FIND toys AND safety". This directs the system to find records which have both keywords. The "OR" and "AND" boolean operators are the real workhorses of online searching. The "AND" command narrows a search, while the "OR" command broadens the search.

Another powerful command available in all online systems is truncation, or the wild card. This command directs the system to find all words beginning with a stem or string of letters. Again the symbol used varies from system to system e.g., "?", "$", or "*". By using the truncation symbol "?", "FIND toy?" will broaden the search to include any word beginning with T-O-Y. Thus not only toy, but toys and related words would be retrieved. However, any other words beginning with t-o-y such as Toyota will also be retrieved. This command needs to be used with care. In addition to single words, phrases with two or more words such as "product safety" can also be retrieved. Most systems even allow the user to specify exactly how close keywords may be to one another in a phrase. For example using "FIND toy (2W) safety" retrieves records which have up to two words between toy and safety.

Searches can be refined by directing the system to search certain fields. Frequently a term is searched in the title and descriptor fields only, e.g., "FIND toy?/TI,DE AND safety/TI,DE". This reduces the number of citations found and increase the relevance of records retrieved.

PRINTING THE RESULTS

Scanning the titles of a few records can help the searcher to decide whether search terms used are relevant. Popular names for this print command are "PRINT", "DISPLAY", "SHOW", or "TYPE". The user has the option of printing only the title, the bibliographic citation, or the entire record as shown in the sample record above.

CONCLUSION

Computerized database searching can be done by beginning searchers as well as by experienced librarians. With the development of user friendly menu systems, it is now time for researchers to explore the realm of database searching on their own. Librarians will always be willing to act as consultants or perform sophisticated searches.

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THE EFFECTS OF THE PRESENCE OF SALES TAXES ON STORE CHOICE: THEORETICAL AND PUBLIC POLICY IMPLICATIONS

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ABSTRACT

A major public policy debate centers upon the issue of the taxation of out-of-state mail order sales. Currently, it is impossible to collect sales taxes on out-of-state orders via the mail because of legal and cost limitations. Two studies were run to investigate the effects of the presence or absence of a sales tax on decisions to purchase a product. The results provided strong evidence that consumers do consider the presence of a sales tax when making purchases. Furthermore, some evidence was found that the effects were stronger for higher priced than lower priced items.

INTRODUCTION

Currently, consumers' use of mail ordering and catalog shopping is growing faster than more traditional forms of retailing. Over the past five years mail order sales have increased about 10 percent per annum and catalog sales have increased about 18 percent per annum, while more traditional retailers are averaging about 8 percent per annum sales increases. Furthermore, the disparity between mail order/catalog sales and traditional retail sales is expected to grow even more over the next five years. These trends have many state legislators worried about their fiscal health, because of the difficulty of collecting sales taxes on goods ordered from different states and sent through the mails.

The problems of collecting sales taxes for out-of-state mail purchases stems specifically from the 1967 Supreme Court decision of National Bellas Hess versus Illinois Department of Revenue. The Supreme Court based its decision on the Commerce Clause of the U.S. Constitution, which indicates that "states are prohibited from imposing the duty of use tax collection and payment upon a seller whose only connection with customers in the state is by common carrier or by mail."

A number of groups have a major interest in the sales tax issue. State governments have an interest because of lost sales tax revenues. Local retailers have an interest because consumers may be ordering goods through the mails specifically to avoid paying sales taxes. As one would expect, retail trade associations are in favor of legislation that would require the mail order/-catalog retailers to collect sales or use taxes. Of course, the mail order/catalog companies would like to maintain the status quo. If laws were changed to force mail order retailers to pay sales taxes, they will incur additional costs in order to remit taxes to 50 states with divergent laws. Finally, consumers also have a stake in the issue. Estimates are that requiring the out-of-state collection of sales taxes would cost consumers $1.5 billion a year in increased sales taxes.

OVERVIEW OF STUDIES

The basic question addressed in the research concerned the impact that sales taxes have on consumer buying behavior. Will the presence of a sales tax (say 7%) influence consumers to shift their purchase away from retailers, who must collect the tax, to retailers who do not collect the tax? A second question concerned whether such a tendency would be influenced by the price of the product.

Studies 1 and 2 used the same experimental design. In Study 1 secretaries role played that they were interested in buying either a high or a low priced necklace. (In Study 2, MBA students role played that they were interested in purchasing a high or low priced T.V.) Within each of these between subjects conditions, seven independent variables were manipulated in a fractional factorial design. Among the seven variables was whether or not a sales tax had to be paid to the retail store. Independent of the sales tax manipulations we varied whether or not the store was a local retailer or an out-of-state mail order firm. (Reasons for why an out-of-state mail order firm would have to collect a sales tax were given. Similarly, reasons for why a local retailer would not collect a sales tax were also given). In addition, other variables were manipulated that would influence store choice, such as merchandise selection, store hours and so forth. Subjects were asked to rank their preferences for the 16 store choice options created by combining the two levels of the seven independent variables. Using a conjoint analysis approach, it was expected that subjects would indicate that the sales tax variable was more important for store choice in the high priced product conditions. Furthermore, it was expected that subjects would overall prefer stores that had no sales tax to stores that required a sales tax payment.

The results supported the hypotheses in both studies. Overall, subjects preferred the retailer that did not charge a sales tax. Further, the results showed that this tendency was greater for a higher priced product than a lower priced product. The results were discussed in terms of their implications for local retailers, catalog retailers, and state governments.

THE DECISION TO DONATE ORGANS: A CONSUMER RESEARCH PERSPECTIVE

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The results of projects conducted by the Organ Donor Research Group at Kansas State University are summarized in this paper. An overview of the research is presented followed by a summary of implications and recommendations.

This paper is intended to provide a brief overview of the efforts of the Organ Donor Research Group in the Department of Psychology at Kansas State University. In the past two years, we have been conducting a series of investigations into psychological issues underlying organ donation. We have completed research projects exploring (1) the knowledge, attitudes, and beliefs of young adults concerning organ donation, (2) the effects of different types of motivational appeals on encouraging organ donation, (3) the perceptions and images that people have of their own body organs, (4) the perceptions and beliefs held about various definitions of death, especially brain death, and (5) the differences between various demographic and psychographic segments in their willingness to donate organs.

Based on our research, we have become convinced that there is a need to learn more about the psychological factors underlying the decision to donate organs. Although there have been several well-done surveys, these are not capable of addressing the psychological issues in any detail. Our research, in contrast, has been designed to provide in-depth analyses based on controlled experiments. As a result, these studies have revealed findings of considerable psychological interest. Consider the following four examples.

First, the public seems aware that (1) there is a great need for more organ donors, (2) considerable benefits to others can come from being an organ donor, (3) donating organs is seen as a positive step, and (4) there are ways available that a person can indicate his/her willingness to donate organs. Despite this evidence, there remains a critical shortage of organs. The question is why? We believe the answer lies in a deeper understanding of the psychological concerns of potential donors.

Second, in analyses of the motivation for donating organs, we have compared self (or inner) appeals with other (or outer) appeals. A self appeal says that its good to be an organ donor because "it makes you feel better." An other appeal says that its good because "it can help other people." In surveys, other appeals are rated as more influential. When actual radio ads were constructed, however, self appeals were described as more convincing; interestingly, the other appeals were rated as "clearer." What this suggests is that appeals to self motivation are more likely to encourage organ donation, even though other appeals are more "listenable."

Third, analyses of individual differences, based on willingness to sign an organ donor card, have revealed systematic trends. All groups were equally willing to donate organs while living (e.g., a kidney) to a relative. However, signed organ donors were much more likely to donate to strangers. This suggests that even "anti-donors" are willing to consider donation--under some circumstances. Its not the idea of donation which leads to resistance, but rather the social distance of the recipient. That implies efforts should be made to convince potential donors that strangers can be worthy/deserving recipients.

Finally, our research along with the findings of others indicates that it is not lack of knowledge, per se, that prevents most people from signing organ donor cards. Rather, the resistance arises from other psychological causes, such as fear, perceived risk, and mistrust of doctors. Yet most communications, e.g., in advertising, appear aimed at increasing knowledge (or sympathy) about the great need for organs. The underlying reasons for resistance are not addressed in such appeals. We believe that communications that address the psychological sources of resistance are more likely to be successful

Taken together, these studies suggest (1) most people are aware of the need for more donated organs, (2) much of the resistance to donation arises from unarticulated fears and perceived risks of premature organ removal, (3) self-directed appeals are more likely to be successful than other-directed appeals, (4) advertising should address the "emotional" fears of potential donors as opposed to imparting "intellectual" knowledge, (5) greater effort is needed to help people understand the concept of brain death, (6) since analyses of different segments reveal that most consumers support organ donation under some circumstances, attempts should be made to broaden the range of acceptable circumstances.

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THE EFFECTS OF SOCIAL CLASS ON CONSUMER CREDIT CARD REPAYMENT BEHAVIOR

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This paper explores the relationship between the use of credit cards as installment credit instruments and social class. Individuals classified in the lower social ranks are found more likely to repay card credit on an installment basis than their counterparts in higher social classes.

INTRODUCTION

In the past, much of social class research has been concerned with the direct linkage of buyer behavior to an individuals social class (4, 15, 16, 23), or the comparison of social class and income as correlates of buying behavior (14, 20). More recently, researchers (6, 9, 10) have suggested that instead, the focus should be on how social class affects the use of income when examining buyer behaviors, loyalties and attitudes. In this study, the purpose is to examine how social class affects the consumer's credit card repayment behavior.

When card issuers grant credit to consumers they customarily profit in two ways -- through the collection of annual fees, and by charging interest on the balances that are carried over from one billing period to the next. Credit card interest rates are among the highest charged when compared to rates for other types of consumer debt. So high in fact, that bills have recently been proposed in the Congress to establish a national credit card interest ceiling.

In light of these developments, card issuers may find it necessary to re-evaluate both their marketing programs (in order to hold on to their market shares), and their policies (in order to maintain their earnings). Card issuers may seek to identify and focus marketing programs toward those consumers who use credit cards to finance installment debt. This would not only help maintain market shares but would contribute to earnings due to the interest charged on balances that are carried over.

The threat of a rate ceiling may encourage card issuing companies to become more restrictive in their credit granting policies. They may elect to change the time of when the assessment of finance charges begins -- from the end of a billing cycle to the date of purchase. They could also raise annual fees. All of which would have adverse effects on both convenience and installment users of credit cards.

By identifying which consumers are convenience users and which are installment users of credit cards, policy makers may be better able to assess who will be affected by any proposed action, and what the ramifications of such action might be. At the same time, card issuers may find the information useful for market segmentation purposes.

Social Class

Coleman (6) suggests that it is more valuable to look at income and social class together in examining market behavior instead of one versus the other. He defends this on the basis that income and social class aren't very well correlated, and that this lack of correlation stems from three factors: (1) The basis for social class segmentation is derived from occupation, not from income. For example, some blue-collar workers earn as much as white-collar workers but yet, would not be considered to be on the same social status level; (2) Income varies according to the age of the earner and what stage he/she is in their career; (3)

Another problem with previous social class research, is that there was little consensus on what characteristics should be included in a measure of social class (6, 9). Dominguez and Page (9) cited Milton Gordon's definition of "class" as being economic power measured by wealth or income. Also cited, was Albert Reiss' contention that class is centered in the individual's occupational role, as reflected in the individual's command of human and financial resources, decision-making authority, opportunity for personal fulfillment and satisfaction through upward mobility, and service to society. In as much as these things reflect what society regards as important, then Davis and Moore (7) suggest that class can be based on the individual's occupational role and can be measured by the occupation's financial rewards and educational requirements.

Installment Credit Use

In a study using data from the 1983 Survey of Consumer Finances and logit analysis, Sullivan and Worden (21) examined consumer installment debt usage according to various sociodemographic and economic characteristics, and credit attitudes. They reported that young couples with children are significantly more likely to finance consumption through debt than single people or young married couples with no children, while older couples were significantly less likely to do so. Family size was also positively and significantly related to the installment use of credit. Although income was not significant, the stability of income was. When compared to renters or households with paid off mortgages, households with outstanding mortgage balances had higher probabilities of using installment credit debt. The likelihood of debt use decreased as the amount the household had in liquid assets increased. Finally, they found that a negative attitude towards using installment credit significantly decreased the probability of using it when compared to those respondents who had both a positive and negative attitude. Alternatively, a positive attitude significantly increased the likelihood of installment debt usage.

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Model

Based on the preceding discussion we propose that the empirical model to be estimated is thus given by (1).

Installment use of credit cards

= F (Social Class and Related Variables, Family Composition Variables, Assets, Debt, Credit Attitudes, Sex, Race). . . (1)

The variables representing assets and debt are logged, as the transformed variables provided a superior fit.

METHODOLOGY

Method of Analysis

Binomial Logit Analysis (BLA) was used to empirically analyze (1). The choice of this method is based on its appropriateness as an empirical model when the dependent variable represents a two alternative choice (11). The maximum likelihood method (ML) was used to estimate the logit model.

Data

The data used for this study comes from the 1983 Survey of consumer Finances. The Survey is the most current and comprehensive collection of balance-sheet data since the 1962 Survey of Financial Characteristics of Consumers (1). It also updates balance-sheet information collected in the 1977 Consumer Credit Survey.

The subsample used is limited to those respondents who indicated how they paid off the balance on the bank or store credit card they used most often (either in full or in part at the end of a billing cycle). Cases in which the occupation or the education of the household head, or the annual income were not reported were excluded from the analysis as these are factors used in determining social class rankings. Individuals identifying their occupation as being in the military were excluded due to the fact that their job or profession within the military could not be identified. In order to avoid the effects of extreme values, cases in which the annual income exceeded $130,000 were also excluded. A total of 1,466 families are included in this analysis.

Dependent Variable

For the purpose of this study, installment users of credit are defined as those individuals who reported sometimes or hardly ever repaying credit card balances in full at the end of a billing cycle. Conversely, convenience users were those respondents who reported always paying off balances in full.

Therefore, the dependent variable is categorical taking one of two discrete values. If the consumer is an installment user, the variable assumes a value of one, while a value of zero is assigned if the individual is a convenience user.

Independent Variables

In addition to social class, several variables are used to explain credit card repayment behavior. These include relative income status, unemployment status, general attitude towards credit, sex and race of the household head, marital status and age of the respondent, family size, presence of a child under the age of six, assets, variables representing regularly recurring expenses (monthly rent/mortgage payment and monthly installment debt other than credit card), and high income status. All variables are categorical with the exception of those representing family size, assets and regularly recurring expenses.

Based on social class research by Dominguez and Page (14, 19) and Nam and Powers (17), the Socio-Economic Status Index (SES) is used in this analysis to formulate a measure of social class. It ranks 3-digit level Census Occupational Titles. By determining the number of household heads who have a particular occupation, the median education and income levels for each occupation can be found. Occupations are then ranked according to the median values of education and income for each occupation. The ranked values of income and education for each occupation are then averaged. The average values are then scaled according to the number of occupations in the sample, resulting in ranked class scores that range from 1 to 100. The highest ranked occupations have the lowest class scores. After obtaining the ranked class scores, they are broken into sextiles. The resulting six groups were used as proxies for social class rankings.

A binary variable with a value of one if the household head is unemployed, and zero otherwise, was included on the basis of previous by research Sullivan and Worden (21) and Heck (11) that found the probability of installment credit use significantly decreased if the household head was unemployed.

Peters (18) found in a study examining buyer behavior in the automobile market that over-privileged (families with incomes above the median of other families in the same occupational class) blue-collar workers demonstrated buying behaviors more similar to those of overprivileged white-collar and professional workers than to under-privileged workers in their own occupational class. Peters based his research on Duesenberry's Relative Income Hypothesis which assumes that the proportion of a family's income spent on consumption is not determined by their absolute income, but instead, on how the family's income compares with those in the community. Therefore, a binary variable was used in this study to represent the family's relative income status. If the family's income was above the median of all others in the same SES sextile, a binary variable was assigned a value of one, and zero otherwise.

A dummy variable was used to indicate annual income in excess of $70,500. This represents the top 5 percent of the sample. This variable was included to compensate for the fact that a high income opens up alternative credit opportunities not available to others. Thus reducing the need to use card credit for other than convenience purposes.

This study uses the family composition variables of marital status, age of the household head, presence of a child under six years of age, and family size instead of the traditional FLC variables. Research by Wagner and Hanna (22) and Derrick and Lehfeld (8) comparing FLC variables and family composition variables indicates that the family composition variables explain as much or more of the variation in the dependent variable. They are also easier to construct, and are flexible enough to accommodate non-traditional lifestyles such as the single-parent family. The age groups used were; under 25 years, 25 to 44 , 45 to 64, and 65 years and older.

To represent the family's ability to fund current consumption, the total dollar amount the family has in checking and savings accounts was included as a variable in the analysis. Sullivan and Worden (21), showed that the amount the family had in assets was negatively and significantly related to the use and amount of installment debt incurred.

Shay (19) suggested that "credit dependent" consumers have high regularly recurring expenses in proportion to income. With this in mind, monthly payments for rent or mortgage and monthly installment payments on debt other than credit card may be regarded as "regularly recurring expenses", and included as explanatory variables representing debt. Heck's (11) research indicated installment debt was positively related to the installment use of credit cards.

Two binary variables are used to represent the respondent's attitude toward credit in general. If the attitude was expressed as being either positive or negative then the corresponding variables were coded as one, and zero otherwise. If the attitude was both positive and negative (i.e., it depends on the use of the credit) then all variables were coded as zero. Previous research (2, 21) has shown that attitude is a significant influencing factor on the family's willingness to use installment credit, with negative attitudes being negatively related and positive attitudes being positive determinants.

Sex and race of the household head were also included as explanatory variables in this study. Race is represented as a single binary variable with a value of one if the head of the household is black, and zero otherwise. White (24) found the probability of paying for a purchase with a credit card as opposed to using cash or a check, was positively related to being nonwhite. The probability of using credit cards for installment purposes was also found to be positively related to being nonwhite (11)

RESULTS AND CONCLUSIONS

Table 1 reveals that the group of variables most affecting the likelihood of using card credit for installment purposes are those related to social class, assets and debt.

As expected, social class was found to be significant and negative for all categories when compared to the base category (LLOW). With the exception of the HMED group, as social class increased the likelihood of repaying card credit on an installment basis decreased. This is possibly a reflection of the higher educational status of the upper classes, which may increase the perception of the cost of credit. The coefficient for the HMED group indicates that the likelihood of using card credit as an installment tool is larger than for any other social class group except the lowest (LLOW). This result lends support to the theory that the need to conspicuously consume is greatest for this group. In general, these findings are consistent with those of Mathews and Slocum (14, 20).

The variable representing those whose relative income status is above the median (privileged) of others in the same social class category, is significant and negative. Taken as a whole, individuals in privileged positions across all social class categories are less likely to maintain balances on their credit cards than their underprivileged counterparts. For those in the underprivileged position, this result is consistent with the relative income hypothesis and with Peter's findings (18).

TABLE 1. Summary of Estimated Coefficients for Logit Analysis of Using Card Credit for Installment Programs

Explanatory Variable	Estimated Asymptotic Coefficient	Std. Er
Intercept	0.866*	0.463
Social Class (LLOW)		
HHIGH	-1.302***	0.346
LHIGH	-1.025***	0.315
HMED	-0.569*	0.318
LMED	-0.900***	0.301
HLOW	-0.672**	0.321
Relative Income Status (underprivileged)		
Privileged	-0.289**	0.145
Unemployment Status (employed)		
Unemployed	-0.471*	0.270
Assets		
Log of total amount in checking and savings accounts	-0.181***	0.033
Debt		
Log of household installment debt other than credit card	0.112***	0.024
Log of monthly rent/mortgage payment	0.138***	0.027
Age of the Household Head (< 25)		
25 - 44	0.404	0.261
45 - 64	0.117	0.275
65 or older	-0.895***	0.321
Presence of a Child Under the Age of Six (none)	0.122	0.182
Marital Status (single)		
Married	0.462**	0.218
Family Size	0.039	0.058
Credit Attitude (positive/negative)		
Positive	0.218*	0.133
Negative	-0.342**	0.172
Race (nonblack)		
Black	0.781***	0.238
Sex (male)		
Female	0.312	0.219
High Income Status (below $70,500)		
Above $70,500	-0.854***	0.307

likelihood ratio statistic = 314.29***
degrees of freedom = 21
likelihood ratio index
(rho-squared) = 0.171

*** = .01 level of significance
** = .05 level of significance
* = .10 level of significance

The unemployed are significantly less likely to repay card credit on an installment basis. The result supports the contention that the unemployed are less willing to incur debt of this kind while they have no means in which to pay it off. This finding is also consistent with Heck's (11), although it was not significant in that study.

Increasing amounts in checking and savings accounts significantly decrease the likelihood of families using card credit to finance installment debt. This result is most probably due to the fact that these families are better able to finance current consumption through ready cash reserves.

Variables for regularly recurring expenses (household installment debt other than credit card and monthly rent/mortgage payment) were found to be significant determinants of installment usage of card credit. The higher these payments the more likely the household will maintain card balances. These findings are consistent with Heck's (11) and lend support to Shay's (19) theory that "credit-dependent" consumers have high regularly recurring expenses in proportion to income.

Of the family composition variables, two were significant. While all three age groups (25 to 44, 45 to 64, and 65 and older) were found to be less likely to use card credit for installment purposes when compared to the base category (household heads under 25 years), only the 65 and older group was significant. Also, being married was significant and positively effects the likelihood of maintaining card balances. Family size and the presence of a child under six years of age were not significant.

The attitude variables were significant and had the expected signs. This and Awh and Waters' (2) finding that attitude is the most important factor linked to frequency of use would then imply that a negative attitude not only means less card credit use but also, that when such credit is used, it tends to be repaid in full at the end of a billing cycle. The opposite holds true for card users with a positive attitude toward credit. However, note that a negative attitude has an effect larger than that corresponding to a positive attitude.

As hypothesized, a household with a high income is significantly less likely to use card credit in an installment fashion. Additionally, households whose heads are black are more likely to use their cards for installment purposes. To the extent that this group has more difficulty accessing other types of installment credit, the result seems logical. Also, blacks are more likely to feel discrimination in the payment of bills by means of personal check (24), and therefore, will use card credit as a means to pay for things. If this is the case, they may be more likely to incur instalment debt on credit cards than nonblacks. The household head being female was not a significant determinant of the installment use of credit cards.

By reversing the logistic transformation, the results from Table 1 can also be used to simulate the probability of maintaining credit card balances. Some of these probabilities are shown in Table 2.

Marketing and policy implications now appear more clear. Banks would profit by focusing credit card marketing efforts toward those clients who have good credit histories and have been identified as having occupations in the HMED social class category, since there is indication that this group is more likely than any other (except those in the lowest category) to use credit cards to finance debt.

Table 2. Probabilities for Selected Household Scenarios of Paying Credit Card Balances on an Installment Basis Probability

1)	Full Sample	.51
2)	Representative Household:*	.69
	Changes to Representative Household:	
	Black Head of Household	.83
	Female Head of Household	.75
	Lowest SES	.80
	Female, Black and Lowest SES Household	.92
3)	If <25, Single, No Children, Lowest SES, Male, White	.62
	If same as (3) but Black	.78
	If same as (3) but Female	.69
4)	If highest SES, Male, ABOVEMED, Married, HIINCOME and over 65 years old.	.08

*Representative Household: Age between 25-44, Married, HMED SES, White, Male headed.

From a policy making perspective, a shift of the cost of this type of credit from disadvantaged to better off consumers is desirable. However, the actual mechanisms to implement this are by no means clear. An interest cap would probably foster discrimination of some of the intended beneficiaries of such policies.

The issue of credit card delinquency has not been addressed in this paper. This matter, nonetheless, seems most relevant. The results obtained in this paper coupled with research on delinquency would no doubt clarify the above mentioned policy issues.

REFERENCES

1. Avery, R.B., Elliehausen, G.E., Canner, G.B., Gustafson, T.A. (1984). Survey of consumer finances, 1983. Federal Reserve Bulletin, 679-692.
2. Awh, R.F., & Waters, D. (1974). A discriminant analysis of economic, demographic, and attitudinal characteristics of bank charge-card holders: A case study. Journal of Finance, 29, 973-980.
3. Canner, G.B., & Cyrnak, A.W. (1985). Recent developments in credit card holding and use patterns among U.S. families. Journal of Retail Banking, 7, 63-74.
4. Carman, J.M. (1965). The application of social class in market segmentation. Berkeley: University of California, The Institute of Business and Economic Research.
5. Crevinston, et. al. (1985). Contemporary Personal Finance, Allyn and Bacon, New York.
6. Coleman, R.P. (1983). The continuing significance of social class to marketing. Journal of Consumer Research, 10, 265-280.
7. Davis, K., & Moore, W.M. (1945). Some principles of stratification. American Sociological Review, 10, 242-249.
8. Derrick, F.W., & Lehfeld, A.K. (1980). The family life cycle: An alternative approach. Journal of Consumer Research, 7, 214-217.
9. Dominquez, L.V., & Page, A.L. 1981). Stratification in consumer behavior research: A re-examination. Journal of the Academy of Marketing Science, 9, 250-271.
10. Dominquez, L.V., & Page, A.L. (1984). Formulating a strategic portfolio of profitable retail market segments for commercial banks. Journal of Economics and Business, 36, 189-206.
11. Heck, R.K.Z. (1982). Determinants of consumer repayment behavior in the use of credit cards. Proceedings of the 28th Annual Conference of American Council on Consumer Interests, 127-133.
12. Hrozencik, D.F. (1984). Binomial Logit analysis. Proceedings of the 30th Annual Conference of American Council on Consumer Interests, 147-150.
13. Maddala, G.S. (1983). Limited Dependent and Qualitative Variables in Econometrics. Cambridge: Cambridge University Press.
14. Mathews, H.L., & Slocum, J.W. (1969). Social class and commercial bank credit card usage. Journal of Marketing, 33, 71-78.
15. Myers, J.H., & Mount, J.F. (1971). More on social class vs. income as correlates of buying behavior. Journal of Marketing, 35, 71-73.
16. Myers, J.H., Stanton, R.R., & Haug, A.F. (1971). Correlates of buying behavior: Social class vs. income. Journal of Marketing, 35, 8-15.
17. Nam, C.B., & Powers, M.G. (1968). Changes in the relative status level of workers in the United States, 1950-1960. Social Forces, 47, 158-170.
18. Peters, W.H. (1970). Relative occupational class income: A significant variable in marketing automobiles. Journal of Marketing, 34, 74-77.
19. Shay, R. (1971). A portrait of the consumer credit market. Business Lawyer, 761-.

20. Slocum, J.W., & Mathews, H.L. (1970). Social class and income as indicators of consumer credit behavior. *Journal of Marketing*, *34*, 69-74.

21. Sullivan, C.A., & Worden, D.D. (1986). Economic and demographic factors associated with consumer debt use (Working Paper No. 52) West Lafayette, Indiana: Purdue University, Credit Research Center.

22. Wagner, J., & Hanna, S. (1983). The effectiveness of the family life cycle variables in consumer expenditure research. *Journal of Consumer Research*, *10*, 281-291.

23. Wasson, C.R. (1969). Is it time to quit thinking of income classes. *Journal of Marketing*, *33*, 54-57.

24. White, K.J. (1975). Consumer choice and use of bank credit cards: A model and cross-section results. *Journal of Consumer Research*, *2*, 10-17.

Economic Analysis of IRA Participation

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This paper presents the econometric results for estimating IRA participation and contribution resulting from the 1981 Tax Act. A sample for eligible households (those working under a pension plan) is constructed from the 1983 Consumer Finance Survey data. A Probit model is developed for analyzing the participation and a Tobit model is used to analyze the contribution. The statistical results show that income and age are important factors affecting household decision on participation and the amount of contribution. The results further show that black households had a lower probability of participating in IRA than white households.

INTRODUCTION

In 1981, the Congress voted to allow workers even with a pension plan to make contribution to an Individual Retirement Account (IRA). The program soon generated much competition among commercial banks and savings and loan establishments. By the end of 1985, the total value of IRA's amounted to $200 billion, up from $132.1 billion in 1984[1]. According to the Employee Benefit Resource Institute (EBRI), IRAs, along with Keogh retirement plans for self-employed people, were expected to draw $40 billion to $80 billion in new money in 1986[2]. The IRA program, to all outward appearances, is a soaring success.

However, while the 1986 Tax Bill was debated in the Congress, several issues related to IRAs emerged. The main question was whether or not IRAs are good for the country? More specifically, do IRAs increase personal savings; and if so, is the increase enough to offset the loss in tax revenue and correspondent increase in the nation's deficit? Do they provide an effective retirement cushion for those who need one or are they mainly a tax dodge for the well-to-do? Obviously, the law makers were convinced that these issues were legitimate. The Tax Bill was passed and signed into law. It contains several restrictions on eligibility for tax deferred IRA contributions as to be discussed later.

Hausman and Poterba (1987) recently argued that the restrictions in IRA deductibility that were instituted in the Tax Reform Act of 1986 should not have substantial impacts in personal savings. They cited three reasons. First, IRAs remain very attractive savings vehicles under the new law because the income from IRA investments can be deferred to after retirement for the tax purpose. Second, the IRA restrictions affect only a small part of the contributing population (only 15% of the taxpayers who made IRA contributions in 1986 will completely lose the deductibility of their contributions). Finally, the new law preserves the incentives for banks and other financial institutions to promote a "psychology of savings" and encourage IRA contributions.

The purpose of this paper is to analyze the household behavior in IRA participation. Specifically, the study investigates the factors affecting the decision to participate in IRA and the amount of contribution. For analyzing the participation decision, a probit model is developed while a Tobit model is used to analyze the IRA contribution. These models are estimated using the household data from the 1983 Consumer Finance Survey conducted by the Federal Reserve Board. The empirical results can be used to analyze the above mentioned issues being raised on the IRA program. More important, the empirical results are useful for evaluating the impacts of the Tax Reform Act of 1986. Note that this study deals with only the IRA participation by those with a pension plan. The reason for confining the study to this limited scope is due not only to data limitations but also to its particular suitability for evaluating household saving characteristics and the impacts of federal tax policies.

HISTORY OF IRA

The IRA was established in 1974 under the Employee Retirement Income Security Act. Under this early legislation, individuals without an employer supported pension plan could contribute up to a maximum of 15% of earned income not exceeding $1,500 to their IRA's. The Tax Reform Act of 1976 increased the maximum limit from $1,500 to $1,750 while keeping the 15% cap unchanged. Therefore, during the period of 1974 - 1981, IRAs were available only to those working households without an employer maintained pension plan.

These limitations were relaxed in 1981 while the Economic Recovery Act made IRAs available to all working men and women with or without a pension plan beginning in 1982. The 1981 Act also changed the maximum amount of contributions to $2,000 for individuals, $2,250 for one-earner couples, and $4,000 for two-earner couples.

Under the 1986 Tax Reform Bill, the deductibility of IRA contributions is more limited for high-income taxpayers. For those without an employer maintained pension plan or those with a pension plan but with adjusted gross income (before contribution) less than $25,000 (single) or $40,000 (joint), nothing changes. A taxpayer with income more than $35,000 (single) or $50,000 (joint) can not make tax deductible contributions. However, one with an income in the $25,000 - $35,000 range (single) or $40,000 - $50,000 (joint) can have a partial deduction. Another important provision is that the accruing income from all IRA investments (regardless tax deductible or not) can be tax deferred until retirement under the new law.

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CONSTRUCTION OF A SAMPLE

The 1983 Survey of Consumer Finance (SCF) was jointly sponsored by the Board of Governors of the Federal Reserve System, the U.S. Department of Health and Human Services, and five other federal agencies. The survey used a multi-stage probability sampling design. Interviews for the survey were conducted from February through July 1983, thus covering both 1982 and 1983 tax years for IRA participation and contribution. The questionnaire included many sections. Respondents were asked about their attitudes toward credit (especially credit cards), housing situation, income, wages and assets, household durables and other debt, checking and savings accounts including participation and contribution of IRA, Keogh and other retirement accounts. In addition, the employment and many demographic characteristics of respondents and spouses were enumerated (see Avery, et al. 1984a and 1984b for more detailed descriptions of the 1983 SCF).

Even though the 1983 SCF contains very rich information related to household financial variables, it cannot be readily used for this study. The main shortcoming of the data base is the lack of specific information on the IRA contribution made for the 1982 and 1983 tax years and on the length of period of participation. Since the questionnaire asked only the amount of IRA contribution, it is not clear when these contributions were made.

Therefore, we need to construct a subsample for this study. Specifically, this subsample should include only those working households with a pension plan during the sample period. This subsample, of course, includes both IRA participants and non-IRA participants. For the purpose of constructing the sub-sample for this study, we specify two categories of IRA participants, "old" and "new". The "old" IRA participants refer to those households whose accumulated IRA contributions exceed $8,000, the maximum for a two-earner couple for the two tax years of 1982 and 1983 under the 1981 Act. The "new" IRA participants refer to those with contributions less than $8,000. It should be obvious that the old IRA participants must have made part of or all of the contributions under the old rules (the 1974 and 1976 Acts). However, the new IRA participants were not necessarily making the contribution only under the new rule (the 1981 Act).

Table 1 shows the distribution of total sample (from the survey) under various catagories of working status, pension availability, and IRA participation, and average household income for various groups. Of the total sample of 3,824 households, 3,028 households have income data of which 2,236 households are working under a pension plan. In this group, there are 53 old IRA participants. These are the households with contribution under the old rules (i.e. with contributions exceeding $8,000). This can happen either (1) the householder changed the employment from one without to one with a pension plan or (2) the spouse made IRA contributions under the old rules prior to 1982. Note that this group of old IRA participants has an average income of $63,695 which is substantially higher than other groups in the same category.

Table 1. Characteristics of Total Sample

Item	Number of Households Number	 Percent (%)	Average Household Income (1982)
Total Sample	3,824		[a]
Households with income data	3,208		$25,975
Working Households	2,236		$30,939
With pension plan	1,336	100	$34,339
New IRA	241	18	47,228
Old IRA	53	4	63,695
Non participants	1,018	76	29,718
No information[b]	24	2	36,083
Without pension plan	888	100	$25,901
New IRA	62	7	42,472
Old IRA	53	6	68,987
Non participants	751	85	20,866
No information[b]	22	2	47,288
Others[c]	14		$25,966
Nonworking households	970		$14,521
Households without income data.	616		[a]

[a] Not computed due to incomplete data on income.
[b] Lack of information on IRA participation, and/or contribution.
[c] Lack of information on pension plan.

Note that the number of nonworking households is 970 which appears to be unusually large. In this study, a working status refers a minimum of 20 working hours per week. A household is considered as having a working status as long as anyone in the household worked more than 20 hours a week. Therefore, the nonworking households include those working only part-time (less than 20 hours a week). Note that this group of households has an average income of $14,521, the lowest average of all groups of households. There are 616 households without information on income which is a key explanatory variable for our statistical analyses.

The subsample relevant for this study include the new IRA participants (239) and non-participants (1,018) under the category of working households with pension plan. However, we can not use all these households because some lack data on the independent variables such as education, home ownership, etc. The final subsample used for statstical analysis included 216 new IRA participants and 1,014 non participants. Total sample size is 1,230 households which is 32% of the total survey sample. The actual IRA participation rate in this subsample of eligible households is 18%.

PROBIT MODEL FOR IRA PARTICIPATION

Assume there are two catagories of households -- one participated in IRA and the other not. Furthermore, the decision to participate depends upon a set of factors which may be represented by an index Z_i for the ith individual. Z_i can not be measured or observed. Assume that Z_i is a continuous random variable with normal distribution and is specified as

$$(1)\qquad Z_i = X_i\beta + u_i, \quad i = 1,2,\ldots,n$$

where X_i is a vector of economic and demographic variables. β is a vector of parameters and u_i is the error term. Now, define Y as a dummy variable which is specified as

$$Y_i = \begin{cases} 1 & \text{if the household participated in IRA} \\ 0 & \text{otherwise} \end{cases}$$

Suppose there exists a critical cut off point Z_i^* such that

$$Y_i = \begin{cases} 1 & \text{if } Z_i > Z_i^* \\ 0 & \text{if } Z_i \le Z_i^* \end{cases}$$

In order to simplify these relationships, we can always set Z_i^* to be zero by adjusting Z_i in equation (1). Therefore, Y_i can be alternatively defined as

$$Y_i = \begin{cases} 1 & \text{if } Z_i > 0 \\ 0 & \text{otherwise.} \end{cases}$$

Using the standard normal distribution for u_i, the Probit model can then be specified as

$$(2)\qquad P_i = \text{Prob}\,(y_i = 1) = F(Z_i) = \int_{-\infty}^{X_i\beta} \frac{1}{\sqrt{2\pi}} \exp(-s^2/2)\,ds$$

P_i is the probability that household i would participate in IRA. It is a conditional probability given the household's characteristics, $X_i\beta$. Φ is the distribution function. Our task is to estimate β given the observations on Y_i and X_i. The likelihood function for the Probit model is given by

$$(3)\qquad L = \prod_{Y_i=1} \Phi(X_i\beta) \prod_{Y_i=0} [1 - \Phi(X_i\beta)]$$

The maximum likelihood (ML) estimator can be obtained from the first order condition of maximizing the log of (3) with respect to β.

TOBIT MODEL FOR IRA CONTRIBUTION

The Tobit model is used to estimate the relationship between the amount of IRA contribution and its determinants. The model is certainly more general and more useful than the Probit model in this study because it does implicitly analyze both the participation and the amount of contribution. In the Tobit model, if the amount of contribution is equal to zero, then the situation is equivalent to no participation. However, our data is not perfectly clean on the IRA contribution because it may include some contribution under the old rules. Therefore, it is still useful to keep the Probit model for comparison.

As discussed in Amemiya, there are several (five) types of Tobit model. The one used in this study is the standard Tobit model which can be specified as:

$$(4)\qquad Z_i^* = X_i\beta + \mu_i, \qquad i = 1,2,\ldots,n$$

$$\text{and}\quad Y = \begin{cases} Z_i^* & \text{if } Z_i^* > 0 \\ 0 & \text{if } Z_i^* \le 0 \end{cases}$$

Where μ_i is assumed to have independent normal distribution will mean zero and variance σ^2. Z_i^* represents an index for the right-hand side variables and Z_i^* maybe positive or negative. In this study, Y_i is the amount of IRA contribution while X_i is the vector of explanatory variables such as income and demographic characteristics of household i. The likelihood function of the Tobit model is given by

$$(5)\qquad L = \prod_{Y_i=0} [\,1 - \Phi(X_i\beta/\sigma)]\prod_{Y_i=1} \sigma^{-1}\,\phi[(Y_i - X_i\beta)/\sigma]$$

Where Φ and ϕ are the distribution and density function, respectively.

There exist several estimation methods for the standard Tobit model (see Amemiya). In this study, we use the Probit Maximum Likelihood Estimator. Specifically, the Tobit likelihood function (5) can be rewritten as

$$(6)\qquad L = \prod_{Y_i=0}[1 - \Phi(X_i\beta/\sigma)] \prod_{Y_i=1}\Phi(X_i\beta/\sigma) \prod_{Y_i=1}\Phi(X_i\beta/\sigma)^{-1}\sigma^{-1} \bullet\phi[(Y_i - X_i\beta)/\sigma]$$

Note that the first two products in (6) constitute the likelihood function of a Probit model and the last product is the likelihood function of the truncated Tobit model. The Probit ML estimator of $\alpha = \beta/\sigma$ is obtained by maximizing the log of the first two products. α is a vector of the normalized regression coefficients. Under this method, only the ratio β/σ is estimated, not β or σ separately. However, the normalized coefficients can be transformed into the regression coefficients (β) by multiplying all normalized coefficients ($\hat{\alpha}$) by the calculated standard error of estimated regression ($\hat{\sigma}$).

Increased efficiency could have been gained by using the Heckman's two-step estimator which extends the Probit MLE. However, the improvement of the Heckman's two-step estimator over the Probit MLE is unlikely to be as much as in the more complicated Tobit models with sample selection bias. We further note that the Probit MLE is not consistent under heteroscedasticity or nonnormality of the error term. These problems obviously require further investigation of the estimates presented in this paper.

ECONOMETRIC VARIABLES

The empirical model includes a set of continuous quantitative variables and a set of dummy variables. The continuous variables are defined as follows:

IRAC = accumulated IRA Contribution (thousand dollars),

INCOME = total household income before tax in 1982 (thousand dollars),

WAGE = total household wage-earning income before tax in 1982 (thousand dollars),

SIZE = household size (number of persons),

AGE = age of respondent person.

The variable IRAC is the dependent variable in the Tobit model. The variables, INCOME and WAGE are two alternative measures of income, which only one will be selected in the final model. SIZE and AGE are two continuous demographic variables.

Table 2 lists all the qualitative dummy variables in the model. IRAP is the dependent variable in the Probit model. The remaining dummy variables reflect various demographic and psychological characteristics of the household.

Notice that there are only two racial groups specified. This simplification results from the fact that the separate dummies for Hispanic and Asian/Pacific Islander did not work in this model. Notice also that we attempt to capture the impacts of household's attitude toward risk (NRISK) and liquidity (LIQD) on IRA participation and contribution in the Probit and Tobit models.

Table 2. Definition of Dummy Variables

Strata	Symbol	Definition
IRA participation	IRAP	IRA Participants
	NONP-Base	Eligible non-participants
Race/Ethnicity	WHITE-Base	Caucasian and others
	BLACK	Black
Education	GRAD12-Base	0 - 12 grades (without diploma)
	HIGH	High School diploma
	SCOL	Some college without degree
	COLL	College degree or more
Marital Status	MARRI	Married
	SINGL	Singles (never married)
	OTHER	Divorced, separated and, widowed, etc.
Home Ownership	HOME	Home owner
	NONHM-Base	Non-homeowner (renter or free occupying)
Region	NE-Base	Northeast region
	NC	North Central region
	SO	South region
	WE	West region
Risk preference	NRISK	Not willing to take any risk for saving or investment
	WRISK-Base	Willing to take some risk expecting to earn additional return
Liquidency pref.	NLIQ	Not willing to tie up money at all
	WLIQ-Base	Willing to tie up money for higher return

REGRESSION RESULTS

In our preliminary analyses, we tested two pairs of alternative variables. The first pair is between gross income and wages/salaries, and the second is between household size and the number of children. It was found that the regression results are very similar between these alternative variables. We decided to use income and household size variables in the final model. We also included squared income as an explanatory variable but it was not statistically significant.

Table 3 presents the regression results for both the Probit and Tobit models. For the Tobit model, both the normalized coefficients and the regular regression coefficients are presented. The standard error of estimate (σ) is 3.0749 which is used to transform the normalized coefficients to regression coefficients. Note that the results of Probit and Tobit models are very similar. The similarity is due partially to the fact that the Probit ML estimator is used for the Tobit model and both models have the same set of explanatory variables. Of course, for analyzing the quantitative impacts of explanatory variables, we should use the regression coefficients not the normalized coefficients. For hypothesis testing in the Tobit model, the normalized coefficients should be used.

Table 3. Regression Results

Explanatory Variable	Probit Model (Dependent Variable: IRAP) Estimated Coefficient	Probit Model (Dependent Variable: IRAP) Asymptotic T-Ratio	Tobit Model (Dependent Variable: IRAC) Normalized Coefficient	Tobit Model (Dependent Variable: IRAC) Asymptotic T-Ratio	Tobit Model (Dependent Variable: IRAC) Regression Coefficient
Constant	-2.511	-7.84	-2.633	-8.62	-8.06
INCOME	0.007	3.51	0.0067	4.21	0.021
AGE	0.0281	6.28	0.031	7.30	0.095
SIZE	-0.055	-1.37	-0.053	-1.40	-0.163
HOME[a]	0.323	2.57	0.293	2.42	0.903
Education[b]					
HIGH	0.470	2.90	0.526	3.38	1.62
SCOL	0.559	3.02	0.584	3.31	1.80
COLL	0.574	3.24	0.608	3.61	1.87
Race[c]					
BLACK	-0.490	-2.42	-0.571	-2.87	-1.78
Marital Status[d]					
MARRI	-0.105	0.72	0.149	1.07	0.458
SINGL	-0.005	-0.22	-0.0007	-0.004	-0.0023
Region[e]					
NC	-0.373	-2.94	-0.391	-3.30	-1.20
SO	-0.221	-1.76	-0.219	-1.87	-0.674
WE	-0.344	-2.34	-0.376	-2.75	-1.158
NRISK[f]	-0.218	-1.96	-0.252	-2.37	-0.773
NLIQ[g]	-0.771	-4.58	-0.746	-4.60	-2.293

[a] Base dummy is NONHM.
[b] Base dummy is GRAD12.
[c] Base dummy is WHITE.
[d] Base dummy is OTHER.
[e] Base dummy is NE.
[f] Base dummy is WRISK.
[g] Base dummy is WLIQ.

For measuring the goodness of fit for the Probit model, we follow the likelihood ratio test suggested by Maddala (p.40). Specifically the reported likelihood-ratio test statistic is 203.6. So we have

$$-2\log\left(\frac{L_w}{L_\Omega}\right) = 203.6$$

where L_Ω = the maximum of the likelihood function with respect to all parameters,

L_w = the maximum of the likelihood function with respect to the constant term only.

Since the sample size (n) is 1230, we get $\left(\frac{L_w}{L_\Omega}\right)^{2/n}$ = 0.847 or R^2 given by

$$(7)\ R^2 = 1 - \left(\frac{L_w}{L_\Omega}\right)^{2/n} = 0.153.$$

From the regression results, log L_Ω = -571.54 so log L_w = -673.34. Using the results given in Maddala, the R^2 in (7) must lie in the range

$$0 \le R2 \le 1 - (L_w)^{2/n}.$$

In our case, the upper bound is calculated to be 0.66. Thus, the normalized R^2 is 0.232(= 0.153/0.66) which is typical for this type of analysis using household-level data.

For the Tobit model, we simply use the measure of R^2 computed as the squared correlation coefficient between the actual and predicted values of the dependent variable. R^2 is 0.190 which is comparable to that obtained for the Probit model.

The regression results in Table 3 show that income and age are the two most significant factors affecting both IRA participation and contribution. The statistical significance of the age variable is particularly strong. The positive coefficients of these two variables indicate that the probability for IRA participation is higher for older and higher income households. The same conclusion holds for the amount of IRA contribution. Household size is found to have a negative impact on both participation and contribution, even though the estimated coefficients are not statistically significant at the 10% level.

The estimates of the dummy variables provided many interesting findings. First, home ownership has a positive and significant impact on IRA participation and contribution. This variable may capture some income effects because homeowners tend to have higher income than nonowners. Second, education level has strong impacts on IRA participation and contribution. Specifically, the households with college education have a higher probability for making IRA contribution than those with education less than 12th grade. The estimated coefficient of the dummy variable for black households is negative and significant, suggesting that black households have a lower probability and smaller amount of IRA contribution than all other racial groups in the sample. (In our preliminary analysis, we included separate dummies, one for Hispanics and the other for Asian and Pacific Islanders. However, the estimated standard errors for these separate dummies were extremely large. Therefore, we dropped these dummies in the final model). The results related to marital status show this factor is, in general, not important. The regional dummy coefficients are all statistically significant at the 5% level. The results imply a higher probability of IRA participation in Northeast Region than in the other three regions.

The results associated with the two attitude variables are also interesting. The variable NRISK refers to an attitude of not willing to take any risk for saving or investment. This variable have a negative coefficient, implying the negative impact of this attitude on IRA participation. The sign is as hypothesized and the estimate is statistically significant at the 10% level. The other variable NLIQ refers to no willingness to tie up money in IRA (i.e. strong preference for liquidity). The coefficient of this variable is highly significant (at the 1% level). These results imply households' attitude and preference have strong impacts on their saving behavior.

The estimated Probit model can be used to estimate the probability of IRA participation for different types of households. Two sets of estimated probabilities are presented here. The first set shows the impacts of race and education on IRA participation. Specifically, consider the following type of household: (1) married, (2) a homeowner, (3) in the North Central region, and (4) willing to take some risk and to tie up money for higher return. For income, age, and household size, the sample means are used. The estimated probabilities for different racial and education groups are then calculated and presented in Table 4. The results show that the estimated probability of IRA participation is 24% for a white household with a college degree or more (and other characteristics as specified above) while it is only 11.5% for a black household with the same level of education and other characteristics.

Table 4. Estimated Probabilities of IRA Participation by Race and Education Level

Racial Group	Education Level: College Degree or More	Education Level: Grade 1 - 12 (without high school diploma)
White and others	23.9%	10.0%
Black	11.5%	3.8%

Households with a lower education (less than high school) have dramatic declines in the probability of IRA participation for both racial groups.

The second set of estimated probabilities is developed to analyze the impacts of income on IRA participation. Consider the same set of household characteristics used for the previous calculation and only the households with a college degree or more. Three levels of household income are specified, namely, (1) \$25,000, (2) \$40,000, and (3) \$60,000. The results are presented in Table 5. As expected, households with lower income have lower probabilities of IRA participation. For example, for a white household with income of \$60,000, the probability to participate in IRA is estimated to be 30.2%. The probability would reduce to 22.4% if the household has income of only \$25,000. Notice, however, that these differences are less drastic than those either between racial groups or between different education levels.

In the Tobit model, the impact of an explanatory variable can be measured by elasticity. Table 6 presents two sets of elasticities for income, age, and household size. The first set of elasticities is computed directly for Y or Z^* in equation (1). The second set of elasticities are computed for E(Y), the expected value of Y as discussed in Maddala (P. 159). The elasticities for E(Y) are lower because these elasticities take into account the probability of participation. The results show that E(Y) has a very high elasticity of 2.46 with respect to household age.

Table 5. Estimated Probabilities of IRA Participation by Race and Income Level

Racial Group	Income Level: \$25,000	Income Level: \$40,000	Income Level: \$60,000
White and others	22.4%	25.5%	30.2%
Black	10.5%	12.5%	15.6%

Table 6. Estimated Elasticity from Tobit Model

Explanatory Variable	Estimated Elasticity of Y	Estimated Elasticity of E(Y)
INCOME	1.668	0.436
AGE	9.419	2.461
SIZE	-1.258	-0.329

CONCLUSIONS

In this study, a subsample of working households with a pension plan was constructed from the 1983 Consumer Finance Survey data. The subsample indicated a 18% IRA participation rate for the 1982 and part of 1983 tax years. The maintained hypothesis of the study is that IRA participation and contribution are dependent upon income, demographic characteristics, and psychological attitudes of the household. A Probit model was developed for estimating the probability of participation. A Tobit model was developed for estimating the amount of contribution with censured data due to zero contribution for many households in the sample.

The statistical results show that the participation and the amount of contribution to IRA are highly dependent upon income and age. The probability of participating in IRA is higher for higher income and older households. Furthermore, the black households tend to have a lower probability of participating in IRA. The level of education is shown to have a strong impact on IRA participation and contribution. The results further suggest that the psychological factors such as preference for liquidity are very important in household saving behavior such as IRA participation and contribution.

The empirical results would suggest that the impacts of the 1986 Tax Reform Bill on IRA participation and contribution will be different among different groups of households. The restrictions in IRA deductibility will have more negative impacts on white households with higher education levels and higher income because they have a higher probability of participating in IRA than other household groups.

FOOTNOTES

1. The Washington Post, April 6, 1986.

2. Ibid.

REFERENCES

Avery, R.B., G.E. Eilliehausen, and G.B. Canner, (1984a), "Survey of Consumer Finances, 1983", Federal Reserve Bulletin (September):679-692.

Avery, R.B., G.E. Elliehausen, and G.B. Canner, (1984b). "Survey of Consumer Finances, 1983: A Record Report," Federal Reserve Bulletin (December): 857-870

Amemiya, Takeshi, (1985), Advanced Econometrics, Cambridge, Massachusetts: Harvard University Press.

Hausman, Jerry A. and James M. Poterba, (1987), "Household Behavior and the Tax Reform Act of 1986," Economic Perspectives, 1:(No. 1, Summer):101-119.

Maddala, G.S., (1983), Limited Dependent and Qualitative Variables in Econometrics, Cambridge: Cambridge University Press.

RECENT LABOR MARKET EXPERIENCE OF THE BABY BOOM GENERATION

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The Surveys of Consumer Finances for the years 1960, 1967, 1977 and 1983 are consulted to test whether the baby boom generation fared as well as its immediate predecessors as it entered the labor market. Unemployment rates and real earnings of boomers are compared to their equivalent cohorts in earlier years and to older cohorts in 1977 and 1983, with account taken of age, sex and race of respondents. Results indicate that in general, boomers have experienced higher unemployment and lower real earnings than proceding generations, and implications of this are drawn. The idiosyncratic experiences of females, blacks and those with college degrees are noted.

INTRODUCTION

Depending on the degree of imperfection of the labor market, a supply shock such as that which began in the late 1960's when the baby boom generation began to enter the market, can cause wages to fall, the unemployment rate to rise, or both. Furthermore, if there is not perfect substitutability of one age cohort for another in the labor force, the burden of lower wages and higher unemployment may well fall disproportionately on the new entrants. Such was the prediction of models developed by various writers in the late 1970's (e.g. Freeman, 1979; Berger, 1984): the concern was expressed that the baby boom generation would not develop the financial wherewithal to live as comfortably as its parents.

Early evidence seemed to confirm that baby boomers were experiencing difficulty in establishing themselves in the labor market. Baby boomer unemployment rates tended to be higher than average, and to remain so as the national average fluctuated (Feldstein, 1972; Wachter, 1976). At the same time, earnings of boomers tended to be lower than those experienced by the same age cohort in previous years, even when allowing for the fact that boomers tended to have more education than their predecessors (Welch, 1979; Russell, 1982).

For the first time in many years, it looked like a whole generation of the US population would not only not be able to develop the financial wherewithal to live as comfortably as its parents, but would see its financial condition worsen relative to previous generations (Berger, 1984). Or would it? Welch (1979) predicted that initial reductions of wages and hours worked of the boomers would decline over time, and any persistent effects would extend only to wages.

The baby boomers have now been in the labor market for over a decade. The object of this paper is to give an update on their labor market experiences using the survey of consumer finances data. The purpose of the study is to examine whether baby boomers are experiencing higher unemployment rates and lower earnings than people of equivalent socio-demographic status in previous generations. Results will update the earlier studies referred to above, but also supplement them by disaggregating by education, sex and race.

If it turns out to be the case that boomer unemployment rates are higher and earnings lower than previous generations, then the implication would be that the baby boomers will have to live at a lesser level of economic wellbeing than their parents. The practical consequences of this would depend on whether boomers are capable of making the required adjustment of expectations: for example, if boomers were to consume at the same level as their parents, their ability to accumulate assets would not be as great, and their security in later years might be inadequate to meet retirement needs.

METHODS

The data base for this study is the Survey of Consumer Finances, a cross-section sample of US families collected periodically by the Survey Research Center at the University of Michigan. The surveys provide data on unemployment and earnings of family members, and include a wealth of data on socio-demographic characteristics of respondents and their families (Avery et al, 1984). For the purposes of this study, the surveys for 1960, 1967, 1977 and 1983 were consulted.

The labor market experience of baby boomers relative to previous generations is analyzed by two kinds of comparisons. One is comparison of the boomer age group in 1977 and 1983 with the same age group in the earlier years; the other is comparison of the boomer age group to people in older age cohorts in the same year. These comparisons are facilitated by combining age with unemployment and earnings data for all four sample years. For unemployment data, which is expressed in rates, the combination is by cross-tabulation. For earnings data, which is expressed in average dollar amounts per cohort, the combination is by analysis of variance.

The baby boom generation consists of those people born between 1946 and 1964. In 1977, the boomers were in the 13-31 age cohort, and many of the older members of this group (sometimes called the early boomers) would have been in the labor market. In 1983, the most recent survey year, the boomers were in the 19-37 age cohort. By this time most of the early boomers should have been in the labor market, and many of the younger members of the group (sometimes called the late boomers) would have joined them.

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In what follows, the baby boom generation will be defined as those between the ages of 21 and 37 in 1983. The high cut-off at the younger end of the range is because of small numbers of usable returns in the 19-20 ages. Distinction will be made between the early boomers and late boomers. The dividing point between the two subgroups coincides with the peak of the surge in birth rates in the mid 1950's: early boomers are those people aged 27-37 in 1983 and late boomers are those aged 21-26 in 1983. It will be noted that the early boomers constitute the 21-26 age group of the 1977 survey.

RESULTS

Unemployment

The task here is to examine whether unemployment among boomers is higher than for previous generations. Table 1 contains a cross-tabulation of unemployment rates by age groups for the four sample years. Comparing boomers in 1983 to the same cohorts in earlier years, it is evident that the current generation has fared worse than its predecessors. The unemployment rate for both early and late boomers in 1983 was almost double that for their equivalents in 1960, even though the average unemployment rate for the whole sample in 1983 was the same as for 1960. In the case of the early boomers, this process appears to have started in 1977, when they first entered the workforce. Comparing the boomers to older cohorts in 1983, it appears that the burden of unemployment in that year fell disproportionately on the boomers, and especially the late boomers. This is a marked contrast to the earliest two sample years.

TABLE 1. Percentage unemployment rates by age groups.

Age group	1960	1967	1977	1983
21-26 years	5.5	4.4	5.6	10.2
27-37 years	4.9	2.5	4.5	8.7
38-44 years	5.5	2.5	3.7	6.2
45-54 years	7.5	3.3	2.3	6.0
55-64 years	8.5	3.0	1.9	3.7
65 and over	3.1	0.5	0.6	0.8
Sample average	5.9	2.8	3.0	5.9
Chi-square	458	1631	1163	1736
p (DF = 10)	.00	.00	.00	.00

In the course of preparation of this paper, unemployment was broken down by years of education, sex and race of respondents. Considerations of space prevent reproduction of tabulations; results will, however, be described. With one possible exception, the tendency for boomer age group unemployment rates to increase as the boomers entered the workforce, noted for the population as a whole, is pervasive across the different education levels. It is particularly marked for those whose highest educational attainment was 9-11 grades or a high school diploma. The possible exception is those with college degrees, who, as Freeman (1975) points out, constitute an increasing portion of the population over the sample years. Boomers with college degrees were only marginally worse off in 1983 than in earlier years. In most cases, boomers in the individual education categories fared worse than their older cohorts in terms of unemployment in 1983. It is also noted that unemployment rates of boomers in general in 1983 seem to have diminished with increasing education levels.

That boomers have fared worse than their predecessors and older cohorts is evident for males and for whites. Female boomers had higher unemployment rates in 1983 than their older cohorts, but 1983 represented a marked improvement over 1977 and was not unduly worse than 1960. It would be hard to argue that the influx of boomers in recent years had adversely affected women's chances of entering the workforce. Indeed, 1983 marks the first time for women that unemployment rates were no worse than for males.

In the case of blacks, the racial factor appears to have outweighed the age factor in unemployment rates, as several writers have hinted (Smith, 1984; Kiker and Heath, 1985; Hoffman, 1984). Black boomers did show marginally worse unemployment rates in 1983 than their predecessors and than older cohorts, but with all of these rates running at 2 and 3 times the national average, the effect of the baby boom is to some degree masked.

Earnings

The task for this section is to find out whether earnings of baby boomers are lower than for previous generations. Results will be presented for the sample populations as a whole, and discussion follows, controlling for education sex and race.

TABLE 2. Mean real (1982) dollar earnings by age groups.

Age	1960	1967	1977	1983
21-26	11709	15184	13634	14500
27-37	17152	20394	22062	21943
38-44	20119	22981	26419	24672
45-54	18780	20944	25821	26668
55-64	15557	17353	17645	24412
F	18.86	13.54	27.19	20.14
p	.0	.0	.0	.0

Table 2 contains cell means of average (constant) dollar earnings by age cohort over the sample years, as derived from a one-way anova. For the early (27-37) boomers, average 1983 earnings had fallen compared to 1977, thus ending a trend for the earnings of that age group to increase since 1960. This fall was against the trend for real earnings of the sample as a whole, and brought the earnings of this age group below the sample average for the first time. The late boomers (21-26) had experienced an increase in 1983 as compared to 1977, the year that the early boomers entered the workforce, but even with the increase, average earnings were below their 1967 level. The evidence seems to be, then, that boomers' earnings were lower than their predecessors.

To facilitate comparison of boomers with their parents' age cohorts in the same year, ratios of average earnings of the boomer and older cohorts are required. For continuity of presentation, such ratios are presented at the end of this section of the paper, and are preceded by information on average dollar earnings by education, sex and race of respondents.

For all except those whose education terminated with a high-school diploma, the entry of the baby boomers into the workforce in 1977 coincided with a drop in the average dollar earnings of their cohort (21-26) compared to previous years. Similar drops are not noted consistently for any other age cohort. By 1983, the earnings of the 21-26 cohort had recovered a little from the drop in 1977, but in some cases had still not recovered to their 1967 level. The earnings of the 27-37, or early boomer, cohort in 1983 fell substantially in the case of those with least and those with most education.

The entry of female boomers into the workforce in 1977 seems to have affected the earnings of the 21-26 cohort much more than was the case for their male counterparts. Earnings for the cohort had recovered by 1983, however, when the late boomers entered the workforce. The earnings of the early boomers cohort in 1983 (27-37) showed a small decrease for males, but for females, in contrast with their 1977 experience, earnings had increased substantially. It is interesting to note that by 1983, earning for females in general had improved relative to their male counterparts, as compared to earlier years, even though their income was still well below that of males.

As in the case of unemployment, there is no strong evidence that the advent of the baby boom impacted on earnings of blacks. The most noticeable tendency for earnings decline noted above, that of the 21-26 group to fall in 1977, is not apparent for blacks. The race factor seems to have been uppermost, as was the case for unemployment.

For comparison of baby boom age cohorts with older cohorts over the years, the ratio of earnings of early and late boomers to those of people in the 38-44 and 45-54 cohorts respectively were calculated. Results for the sample as a whole are presented in Table 3.

TABLE 3. Ratios of earnings of boomer age groups of peak earnings age groups.

Age ratio	1960	1967	1977	1983
21-26/38-44	.581	.661*	.514*	.589
21-26/45-54	.622	.726*	.525*	.540
27-37/38-44	.853	.887	.829	.894
27-37/45-54	.913	.975	.845*	.818

Note: * indicates that the ratio is significantly different to the previous sample equivalent ratio at at least the .05 level.

According to Table 3, it appears that the 21-26 cohort, having shown significant improvement relative to older cohorts in 1967, experienced a significant setback in 1977 as the early boomers entered the workforce. The relative earnings of this cohort remained relatively low as compared to older cohorts when the late boomers entered the workforce in 1983. The 27-37 age cohort did show a relative fall as compared to older cohorts in 1983, but this was a flow-on from the significant fall for this group which occurred in 1977. The advent of the boomers into the group thus exacerbated the effect of an earlier slump in this age group's relative earnings. It should be noted that by 1983, the relative earnings of the baby boom age groups were down to the levels last seen in the early 1960's. Indeed, as compared to people in the peak earnings years (45-54), the boomers were doing worse than their equivalents in 1960.

Ratios similar to those in Table 3, but controlling for education, sex and race were calculated, but to save space, are not reproduced here. The fall relative to older age groups of both boomer cohorts in 1977 was fairly robust among most education groups, and for white males. The relationship was weaker for females and blacks. Recovery of the ratios by 1983 was rare. One finding of interest is that those boomers with college degrees were able to maintain their parity with older cohorts throughout the 1977 to 1983 period.

CONCLUDING COMMENTS

The findings of this study have confirmed the predictions based on early studies of boomers' experience in the workforce, namely that boomers have not fared as well as their parents' generation. Study of unemployment rates of boomers shows that they had more difficulty entering the workforce than did the immediate preceding generations. Real earnings of boomers are lower than their parents generation, and have fallen relative to people in the peak earnings years. There is a 'back to the future' element to this: earnings of boomers relative to peak earners have recently returned to the levels they were at prior to the 1960's.

It should be pointed out that the above conclusions are drawn on the assumption that by looking at boomers relative to previous and older generations, the effect of the supply shock on the labor market would be isolated from other changes occurring in the economy. In general, the impact of the boomers, first as 21-26 year olds in 1977 and as 21-37 year olds in 1983 did stand out.

Disaggregation of results by education, sex and race uncovered some exceptions to the general findings commented upon above. The college degree - possessed by more people than ever before - to some extent cushioned the impact of unemployment for the boomer generation. Those with college degrees did experience something of a decline in real earnings between 1977 and 1983, but they were nevertheless able to maintain parity with the peak earners. Other education groupings were not so lucky.

Disaggregation by sex showed females' experience to have been a little more erratic than males; other influences than just the advent of boomers into the workforce were at work in women's unemployment and earnings patterns. Females seem to have improved relative to males during the 1977-83 period. The recent workforce experience of blacks likewise seems to have been dominated by factors other than merely the entry of boomers onto the stage.

The general findings of this study strengthen the cause of those who argue that the boomer generation can not live at the level of its parents and still accumulate the funds necessary to ensure a smooth pattern of consumption in their later years. Nor can inheritance be expected to fill the gap, given the longevity of their parents and the potential for medical care costs to absorb the savings of the elderly. To sustain the levels of consumption of their parents, boomers must either cut back on savings or use more consumer credit. Either course of action implies a sacrifice of future consumption. The tendency for boomers to overuse consumer credit has been commented on elsewhere. It remains for future work to show whether and by how much current savings of boomers are falling short of projected requirements for retirement.

Regardless of whether it is or is not desirable for any generation to consume as its parents did, the difficulty boomers have experienced in establishing themselves in the workforce is a concern to both policy makers and financial planners. At stake is the future welfare of a whole generation, and action to rectify potential problems needs to be taken immediately by the boomers themselves.

REFERENCES

Avery, R., Elliehausen, G.E., Canner, G.B., Gustfson, T.A., Briskman, N., Davis, B., Rochlin, J., Seifert, R. and Springer, J. (1984) "Survey of Consumer Finances, 1983". *Federal Reserve Bulletin, 70*, 679-692.

Berger, M.C. (1984) "Cohort Size and the Earnings Growth of Young Workers." *Industrial and Labor Relations Review, 37*, 582-91.

Feldstein. M.S. (1972). *Lowering the Permanent Rate of Unemployment.* Discussion Paper No. 259, Harvard Institute of Economic Research, Cambridge. Mass.

Freeman, R.B. (1975). "Overinvestment in College Training?" *Journal of Human Resources, 10*, 287-311.

Freeman, R.B. (1979). "The Effect of Demographic Factors on Age-Earnings Profiles." *Journal of Human Resources, 14*, 289-318.

Hoffman, S.D. (1984). "Black-White Differences in Returns to Higher Education: Evidence from the 1970's". *Economics of Education Review, 3*, 13-21.

Kiker, B.F. and Heath, J.A. (1985). "The Effect of Socioeconomic Background on Earnings: A Comparison by Race". *Economics of Education Review, 4*, 45-55.

Russell, L.B. (1982). *The Baby Boom Generation and the Economy*. The Brookings Institute.

Smith, J.P. (1984). "Race and Human Capital". *American Economic Review, 74*, 685-98.

Wachter, M.L. (1976). *The Changing Responsiveness of Wage Inflation.* Brookings Papers on Economic Activity, 1, 115-67.

Welch, F. (1979) "Effects of Cohort Size on Earnings: The Baby Boom Babies' Financial Bust." *Journal of Political Economy, 87*, S65-97.

Consumer Finance: Recent Studies Using the 1983 Consumer Finance Survey

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The series of Surveys of Consumer Finances, from 1960 to 1986, represent a rich data source on asset and debt holdings of households, along with demographic and attitudinal information. With these data, the potential exists to address a wide range of questions and issues of interest to family and consumer economists. The three papers presented here represent a sampling of such issues, focusing on credit use, asset holdings, and the economic status of individuals and families. Please keep in mind that my comments are based upon drafts of the papers received prior to the conference dates.

I want to comment first on some methodological issues in the Soberon-Ferrar/Hatfield-Goldman and the Chern/Chen papers. Both used maximum likelihood estimation techniques, either binomial logit, probit, or Tobit. Because the coefficients in maximum likelihood estimation are not easily interpretable, it is necessary to transform the coefficients into marginal effects. There are two ways this can be done. One is to estimate the marginal effect on the "average" observation; that is, using the means and modal values of the independent variables, you can calculate the change in probability resulting from a unit change in the independent variable. For dummy variables, the probability is calculated with both a 0 and 1 value and the difference is the marginal effect.

Both papers have used this technique to estimate the probability of revolving or participating in an IRA for certain types of households. For example, Soberon-Ferrar/Hatfield-Goldman compare the probabilities of revolving for a "representative" household (the mean/median household) and for differences by race, sex, socioeconomic status, etc. Chern and Chen estimate probabilities for different racial, educational and income groups.

While this method provides information about marginal changes around the average, it does not provide information about the average marginal change, a statistic which is perhaps more interesting since there are rarely "average" people in our samples. The second method is to set up an algorithm for estimating the marginal effects for every individual, then averaging these marginal effects. This allows the researcher, and policy maker, to answer the question, if I pull any individual out of the sample, what is the likely marginal effect my policy will have on this person.

This same technique can also be used to determine the average probability of revolving credit, in the Soberon-Hatfield paper, or the average probability of contributing to an IRA, in the Chern-Chen paper. This calculation allows the researcher to "test the fit" of the model, knowing the proportion of cases which take on a value of 1 for the dependent variable. Again, it allows the researcher to address the questions, "If I draw a household at random, what is it's probability of revolving or participating in an IRA?" (see, for example, the Hogarth article in Vol. 23 No. 1 [Winter, 1988] issue of Journal of Human Resources).

Soberon-Ferrar and Hatfield-Goldman have explored the effects of socioeconomic status, as distinct from income, education, and occupation, on credit repayment behaviors. In order to test for the effects of Duesenberry's Relative Income Hypothesis, they classified half the sample as "overpriviledged," relative to medians within sextiles. Furthermore, they provided a control for very high income households who might have access to alternative credit sources. I would hope that they would continue this research to ask some additional questions: Does the probability of revolving depend on the type of credit card (e.g. bank card versus travel and entertainment card)? Are renters more likely to revolve than homeowners? If you entered separate variables for income, education and occupation into the equation instead of the SES variables, would the results change? Also, given the diverse findings with regard to the relationship between attitudes toward credit and revolving, perhaps additional attitudinal variables could be explored.

These researchers conclude that "banks would profit by focusing ...marketing efforts toward those clients who have...occupations in the HMED social class category." While this is true, the other side of this finding is that HMED individuals and families may benefit most from consumer education on the costs of credit use. Although there is nothing in this research to indicate why these families are revolvers or that revolving is creating strain on their resources, the common wisdom is that payment in full is preferred to revolving. Educational programs targeted to those households most likely to be revolvers may be more likely to have the desired impact of reducing the need to revolve.

Turning to the asset data in the SCF, Chern and Chen explored the determinants of IRA participation and size of contribution. Justifiably, they have tried to limit their analysis to households who began to contribute to IRAs after the Economic Recovery Tax Act of 1981.

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A logical expansion of their work in this paper is to explore determinants of IRA participation for other sub-samples. Also, follow up with the 1986 data would be very interesting. And, given the various tests they performed on the independent variables, it would have been helpful to reserve a sample for hypothesis testing of the final model.

Regarding their Tobit analysis results, algorithms exist for partialling out the effect of an independent variable on the change in probability of participating and the effect of an independent variable on the amount of contributions (see, for example, McDonald and Moffitt, Review of Economics and Statistics, May, 1980, p. 318-321). Presenting these marginal effects on probabilities and amounts would contribute to the interpretation of the results.

While there was nothing unusual in their findings with respect to factors affecting participation and contribution levels, it is interesting to note that risk and liquidity preferences were substantial factors in determining participation and amount of participation. To the extent that these are true preferences, there may be little policy makers and educators can do to effectively change behaviors. However, if preferences are based on inadequate knowledge about the relative risks and/or degree of liquidity of certain IRA products, then education and policy interventions may be warranted.

The Prohofsky-Widdows paper revealed another aspect of using the Surveys of Consumer Finances--the surveys lend themselves to cross-section time series data analysis. Prohofsky and Widdows used this time series aspect to address the interesting issue of the economic security and stability of various cohorts over time. While demography is destiny, it would be interesting to unravel some of the causal relationships between labor supply, unemployment, general economic conditions, and earnings. A sudden increase in the labor supply or declining economic conditions both result in higher unemployment rates, but imply different policy solutions.

For example, for those of us in academe, it's comforting to know that education, particularly college education, makes a difference. However, these findings indicate that effective policies will be targeted to the boomer cohort; and in the realm of education for persons currently 24-42, that may mean job training more than college education. Of course, the question becomes how effectively can policy makers target and provide incentives for one segment of the population without unanticipated fallout to other cohorts. The other side of the policy coin is that of the role of education in changing expectations, attitudes, and behaviors of a given cohort.

It is clear that the Surveys of Consumer Finance offer a wealth of information and opportunity to empirically test our theories of household economic behaviors. However, as researchers, we need to be clear about our objectives. Are we trying to find models that "fit" the data or are we testing hypotheses about economic behaviors of households? If it is the former, then "data snooping," including testing various ways to measure income, race, and household composition, may be warranted. However, if we are serious about hypothesis testing, we need to be more rigorous about identifying the theoretical constructs which lead to our empirical models and we need to be more conservative in handling our samples for model building and model testing.

References

1. Hogarth, J.M. Accepting an early retirement bonus. Journal of Human Resources, 23 (1), 1988, p. 21-33.

2. McDonald, J.F. and Moffit, R. A. The uses of tobit analysis. Review of Economics and Statistics, 62, 1980, p. 318-321.

THE CLASSIFICATION OF CONCEPTS IN CONSUMER EDUCATION; OVERVIEW 1978 - 1988

Janice Holm Lloyd, North Carolina State University[1]

A 1986 survey of leading consumer educators reported the degree to which the Classification of Concepts in Consumer education has served its original purposes: to guide program planners/curriculum developers; as the basis for review of the scope and focus of existing curriculum/materials; to encourage the exchange of information, ideas and research. ACCI's Consumer Education Committee recommended a conference session illustrating the variety of uses reported and providing a forum to consider future applications.

A quick overview for newcomers to the Classification of Concepts in Consumer Education begins in 1978. The Consumer Education Development Program (CEDP) was conceived by Dustin Wilson, of the U.S. Department of Education's Office of Consumer Education. "CEDP" was a collaborative activity, carried out under contract by three different organizations, with the ultimate objective of producing a classification of concepts for the field of consumer education. The CEDP products and the organizations responsible for each are:

1979 - Effective Consumer Education Programs - Michigan Consumer Education Center
1979 - Current and Future Purposes and Objectives of Consumer Education - National Consumers League
1980 - A Conceptual Framework for Consumer Education Curricula - City University of New York's New Careers Training Laboratory Center for Advanced Study in Education
1980 - Classification of Concepts in Consumer Education - Michigan Consumer Education Center
1982 - The Classification of Concepts was published and disseminated without charge by South-Western Publishing Co. as Monograph 137 and reprinted in 1985.

The CEDP project funded two convenings of several hundred consumer educators. In addition, the authors of the evolving classification of concepts, following an exhaustive literature search, involved some 200 leaders in the field, who provided detailed reactions to successive drafts of the classification of concepts.

The desirability of a taxonomy for the field of consumer education was noted in 1934, when researcher Leonard Koos observed that confusion and overlap existed in consumer education and stated the need for greater specification of content and interdisciplinary coverage. Joseph Uhl wrote in his landmark study in 1970: "In order to promote teacher-administrator appreciation of consumer education and foster consumer education in the curriculum, it is important to define the conceptual boundaries and core content of consumer education." In response to this stated need, "the primary reason for developing a Classification of Concepts is to provide a basis for programs and materials development and to encourage exchange of information and ideas about consumer education."

The Classification of Concepts in Consumer Education -- the "Classi" -- is a unique tool designed for multiple uses in a variety of educational settings, for a variety of consumer audiences. The Classi marks the transition from a limited focus on preparing more skilled, rational buyers to encompass the knowledge and skills needed for responsible consumer citizenship. Three levels of concepts are identified and classified in Figure 3 on pages 8-9 of the South-Western Publishing Company edition. The most significant, or superordinate concepts are: Decision Making, Resource Management, and Citizen Participation. Eight concepts make up the second level, with 36 concepts at the third level. The complete list of concepts to the 4th level is on pages 12-13, with each concept numbered for reference convenience.

The concepts are defined, discussed and cross-referenced, followed by entries on contemporary factors affecting consumer decisions. Recommendations for implementing consumer education in the high school are included because of the administrative and curricular challenge involved, although the Classi is intended to help consumer educators in all settings. All concepts are indexed.

Note that the definition of consumer education includes the three superordinate concepts and their "relationship in action" as consumers make decisions to manage resources, and take actions as citizens:

> "Consumer Education is the process of gaining the knowledge and skills needed in managing consumer resources and taking actions to influence the factors which affect consumer decisions."

Figure 1 on page 7 denotes the reciprocal relationship between the factors affecting consumer decisions (both external and personal factors) and the ongoing impact of consumer decisions and citizenship action upon those factors. Figure 1 is adapted from the 1980 CEDP report by Suzanne Dale Wilcox, "A Conceptual Framework for Consumer Education Curricula."

Figure 2 on page 9 portrays the potential impact of consumer education on consumer behavior -- acknowledging that there is a range or continuum on the extent of consumer education experience as well as a range/continuum of behaviors -- and emphasizing the broadened scope of consumer education to promote responsible, informed citizenship. Figure 2 incorporates work from Sandra L. Willett's 1979 CEDP report, "Current and Future Purposes and Objectives of Consumer Education."

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I was the fortunate person hired to carry out some of Classi co-author Rosella Bannister's other duties while she and Chuck Monsma developed the Classi. Becuase I was "present at the creation" and have a special interest in its reception and use, I agreed in 1986 to conduct a modest survey for ACCI's Consumer Education Committee. Numerous phone calls plus written responses from 15 selected consumer professionals were reported on at our 1987 committee meeting. As we reviewed responses to the ways in which the Classi is being used, we decided to ask today's speakers to share with you the ways in which they are using the Classification of Concepts -- in research, in a government agency, and in the classroom. We will then consider some recommendations for the Classi's future. The authors will be asked to respond, and Dr. Carolyn Love will conclude with remarks on the publisher's perspective. It was her perception of the potential value of the Classi and her persuasiveness in convincing South-Western Publishing Company to print and distribute it without charge which have made the Classi available to consumer educators. Carolyn and South-Western deserve our collective gratitude for this major contribution to the field of consumer education.

REFERENCES

Bannister, Rosella and Charles Monsma (1982), Classification of Concepts in Consumer Education, Cincinnati: South-Western Publishing Company - Monograph 137.

THE CLASSIFICATION OF CONCEPTS IN CONSUMER EDUCATION: RESEARCH USES

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Several research applications of the Classification System are reviewed. The framework was previously used for developing content analytic coding categories. Four advantages of using the system for content analysis are outlined.

I was introduced to the Classification system while still in graduate school working with two other graduate students at the Ohio State University, Sr. Victoria Marie Gribschaw and Anne Swartzlander. For many months during 1983, we sought to find or develop a categorical framework to do a content analysis of consumer-interest research in consumer research journals. Our search was presented in a roundtable discussion at the 1984 ACCI conference (Gribschaw, Hayes and Swartzlander 1984).

What's interesting in terms of this panel session is that originally, we dismissed the Classi as being too "educational" in its orientation. It is only after we spent literally months and hundreds of hours of work in developing our own categories that we discovered they were looking more and more like those found in the Classification system. We concluded in our roundtable discussion that with a few modifications we would use the Classification system to investigate trends over time in consumer-interest research. Unfortunately, we didn't complete that work. We left Ohio State and were scattered in the wind. But, I have continued to use the Classification framework in my research and in my classroom applications.

In my work with the framework, I found that other researchers had gone through a process that was similar to the one I had experienced. For example, Way (1984) developed an instrument to analyze the consumer related content of primetime television programs. Afterward, she too found her categories reflected the Classification system. Herrman's (1982) content analysis of high school texts was based on a typology which mirrored the major categories of the Classification system. In other words researchers in the area, who were working independently, were illustrating a parallel development of a categorization scheme that resembled the Classification system. That is one solid reason that I suggest that the framework has content validity.

In my research applications, I have found that using a modified version of the original framework provided a reliable instrument for assessing the consumer information content of newspapers. It provided a thorough outline of the information needed by individuals and groups to manage consumer resources or to take actions as citizens to influence the factors which affect consumer decisions. It allowed integration of consumers' need for information about the economic, political, social, physical and technological environments in which they operate. Thus, its categories comprised a more inclusive inventory of what would represent comprehensive coverage of consumer information news within a conceptually meaningful context. The only limitation I found with the Classification system was the fact that the existing framework has overlapping categories and content analysis requires that categories remain mutually exclusive. I also found I needed to revise some of the definitions.

I'd like to briefly discuss what I have found to be the advantages of working with the framework using content analysis.

(1) Content Validity. The system was previously established by the Consumer Education Development Program through a process of concept clarification which included an extensive search of relevant literature, multiple sources of input from professional leaders, revisions based on feedback and further research, and validation through the application in a variety of settings.

(2) Reliability. In my empirical application of the modified framework, I found the categories to be reliable.

(3) Existing Categorical Definitions. Because the Classification system has extensive definitions of its concepts, it solves one of the largest problems in identifying content analytic criterion -- categorical definitions.

(4) Flexibility. The flexibility of the framework facilitates the research process as categories and subcategories can adapt to valid conceptual modifications. I found that the general area categories should be conceptually broad enough to minimize modifications across time and across media and yet still retain a level of specificity for meaningful applications. The main categories were also flexible enough to accept multiple subcategories of types of information in order for future research to analyze specific areas within the framework and to adapt to new categories of information over time.

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REFERENCES

Gribschaw, S.V.G., Hayes, R. and Swartzlander, A. (1984), "Past and Present Consumer Research: Priorities for the Future." Proceedings of the American Council on Consumer Interest 30th Annual Conferences, April 11-14, Atlanta, GA., 233.

Herrman, R.O. (1982), "The Historical Development of the Content of Consumer Education: An Examination of Selected High School Texts 1938-1978." Journal of Consumer Affairs, 16 (1), 195-223.

Way, W. (1984), "Using Content Analysis to Examine Consumer Behaviors Portrayed on Television: A Pilot Study in a Consumer Education Context." Journal of Consumer Affairs, 18 (1), 79-91.

CURRENT AND FUTURE USES OF THE CLASSIFICATION OF CONCEPTS IN CONSUMER EDUCATION: PROGRAM AND POLICY APPLICATIONS BY A GOVERNMENT AGENCY

Gillian McCreary, Saskatchewan Consumer & Commercial Affairs[1]

Saskatchewan Consumer and Commercial Affairs has a legislated mandate to provide consumer information and education to the people of the province (youth and adults, consumers and business). The education function of my Department is separate and distinct from the provincial Department of Education which is charged with the overall responsibility for "institutionalized" learning in the province. However, we work closely with the Department of Education to promote and institute consumer education.

At Saskatchewan Consumer and Commercial Affairs, we are of the opinion that consumer or "economic lifeskills" education is an essential discipline when preparing young people or enabling adults to participate effectively in a complex and changing, market-based society. An individual's ability to function successfully as a "consumer citizen" is essential to his/her well-being and also to the well-being of the province socially, politically and economically. In providing consumer education in the province, we - a staff of 11.5 plus 50 volunteer professionals - are involved in a full range of education programs and activities targetting students in the school system, adults at educational institutions, and a wide variety of community groups, individuals, special needs groups (seniors, low income persons, low literacy persons and natives) and professional and business associations, etc.

The Classification of Consumer Concepts has served and continues to provide us with a theoretical guide and a conceptual framework which has proven invaluable in our planning and in the development of educational policy, as well as in the development, administration and evaluation of education and information resources and programs.

POLICY

A significant portion of my work is to promote consumer education - serve as an advocate for the establishment and recognition of this important area of study. I find myself aggressively involved in the business of education policy development beginning at the most elementary stage of lobbying and pressuring power brokers such as Cabinet Ministers, education policy and curriculum developers, finance analysts, etc., to achieve greater acceptance and appropriate status for consumer education.

In Saskatchewan, the consumer movement has waned since the late 70's in terms of mass public support and involvement and this is reflected in our education and political institutions. While my Department and I believe that there is a strong case to be made for consumer education, (in fact, we believe there is an "imperative need" for it given the relevance for today's world of the skills and knowledge base it encompasses) it is experiencing some difficulty achieving prominence and priority on the educational/political agenda. Consumer education is also experiencing difficulty receiving acceptance and validity by educators and education administrators. There are a number of reasons for its impeded advancement. Some have to do with outdated attitudes and perceptions on the part of decision makers at all levels. There is too narrow a perspective or a lack of understanding about its breadth and scope. Other reasons include the high demands for space, in existing curricula, made by competing disciplines. There simply aren't enough hours in the school day for teachers to instruct or students to take all the subject areas being put forward. So Consumer Education is shuffled aside.

Specifically then, in the climate I have just described, with regard to education policy development, I use the Classification to provide a conceptual framework or model to clarify the scope and content of the discipline of consumer education when lobbying decision makers at all levels. It helps them "see" how relevant a discipline it is. I have used the Classification as an appendix or diagram in: budget submissions to Treasury Board for special project funding; briefs to the Advisory Committee on Core Curriculum; submissions to Curriculum and Instruction Review Committees on which we participate; as well as in program planning documents, rationales, defenses and proposals submitted to the Department of Finance, the Department of Education, school boards, etc. In this use, it permits decision makers and power brokers to capture at a glance what it is we are talking about.

(Mention made of $250,000 advertising campaign - "Life Preparation: Economic Lifeskills Education" and "On Your Own: Marketplace Awareness for Youth")

EDUCATING EDUCATORS ABOUT CONSUMER EDUCATION

Beyond influencing the attitudes, perspective and decisions of "power brokers" toward Consumer Education, I would like to stress use of the Classification with teachers. We use it to educate educators about the discipline. In the 1987 education edition of the Consumer Times (our newsletter), we did a feature article on future society and the marketplace. We focused much of the content on the important contribution consumer education makes in helping people deal with change, and relied heavily on the Classification. The model serves as an excellent conceptual tool.

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[1] Director, Education and Communications Branch

INTEGTRATION OF CONSUMER CONCEPTS INTO EXISTING CURRICULUM

Because of the integrative, multidisciplinary nature of consumer education, we work with a number of curriculum committees such as social studies, health, etc. to see concepts integrated into those curricula. The Classification again provides an excellent guide for us as well as a conceptual tool for those we are "encouraging." For example, in the Social Studies Curriculum Grades 1-6, we have recently developed a collection of consumer education activities which integrate consumer education concepts being advanced in the Social Studies Curricula. (Grades 1-6 materials acknowledge the "Classification" in the front of each.)

Through our programs and resources we are in constant contact with a large number of Saskatchewan teachers and instructors in the K-12 system and in the adult education systems. As mentioned, we use the Classification liberally to educate educators about the scope and content of consumer education as well as validate it for them. Another example is that in all our education kits in the Consumer Information Centre we have a small handout which serves to explain to teachers why a resource (film, kit, etc.) on decision making which perhaps does not have an economic/marketplace frame of reference is part of a consumer education library, and more specifically, how the concept being advanced through the resource "fits" into the discipline of consumer education, but can also be used in other areas of study.

ESTABLISHING PRIORITIES IN RESOURCE AND PROGRAM DEVELOPMENT

The Classification is an excellent planning tool in a government agency for working with limited staff and limited resources for determining priorities. When we began the development of our collection of consumer education publications in 1981-1982 we relied heavily on the Classification to provide us with direction in terms of what to do first. What would comprise a basic collection? The Classification provided the theoretical direction to supplement and compliment the target group needs identification we were pursuing.

We continue to make use of the Classification as we flesh out and rationalize new publishing projects. We now have our base. Where do we go next? Is this our business? Who should be producing materials on each subject? In this area of establishing priorities, we also use the "Classification" to aid in determining Extension program priorities in our Consumer Education Facilitators Program. (Professionals volunteer to help the Department provide consumer education programs across the province.)

PROGRAM DEVELOPMENT

The Consumer Information Centre - (comprised of the largest collection of consumer information and education in Canada, lends resources across the province to educators, the public and business). The Classification has proven to be an excellent resource in the development of our collection in the Consumer Information Centre. Obviously, it provides direction with regard to the content and expansion of our overall education collection. It has also served to identify gaps in our acquisitions and most recently has provided an outline for development of two subject headings indexes. We have just completed the development of a master bibliography for the Consumer Information Centre which is going on computer. We relied on the Classification for assistance with our subject headings index. In addition, we maintain a Marketplace Issues & Products Database. While of less use here, the Classification again provided some guidelines for the subject areas included.

Another example of the "Classi's" use in the Consumer Information Centre was in the selection of a collection of educational resources for a Traveling Educational Display. The Display is comprised of selected resources for each grade level and tours Saskatchewan schools, Boards of Education, etc. The Classification was used in the selection of resources to ensure an adequate/comprehensive range for each Division.

STAFF ORIENTATION

As new staff come to the Branch (either as volunteers or on the payroll) who are to be involved in education and communication work, the Classification provides an excellent introduction and overview to our responsibility area. The scope in our areas is broad, and even goes beyond the Classification; however, the base is provided.

RESOURCE MATERIAL DEVELOPMENT

I've mentioned the Classification's usefulness in determining broad subject areas such as Financial Planning, etc., and priorities. However, I want to touch on its usefulness in content selection and focus for all the resource materials we develop. (For example, what should be the base content of 5 Consumer Education Teaching Units for an ABE Social Studies Curriculum?) It provides excellent guidelines for evaluation of our own and other's programs and resource materials, e.g., Insurance Industry resource evaluation.

CONCLUSION

As the above clearly outlines, the Classification has served us well in many ways. In addition to the applications mentioned, it has proven to be an excellent external reference to provide validation and rationale for the work of the Education and Communications Branch. (We work in isolation and enjoy a leadership role but there are drawbacks when there's no one for us to follow.) It has lent tremendous direction as well as confidence to our assessment of what is needed for the field of consumer education in Saskatchewan. This validation and confidence cannot be over emphasized.

CLASSROOM AND CURRICULUM APPLICATIONS OF THE CLASSIFICATION OF CONCEPTS

Barbara Pershing, University of Northern Iowa[1]

Media such as current consumer periodicals, newspapers, and television news are important sources of consumer information for the consumer education classroom. Identification of consumer content available in the media using the Classification of Concepts in Consumer Education (Bannister and Monsma, 1982) is the basis of student projects developed for a college level consumer education class.

Media sources of consumer information are readily available to most students in school libraries and in their homes. Newspapers, periodicals, and television will be lifelong sources of information about economic, political, technological, and social issues that move the consumer beyond the role of purchasing behavior to the level of influencing change. The information available in the media covers the issues of the day but may be somewhat narrow in scope when the breadth and depth of consumer content is considered.

CLASSROOM APPLICATIONS

Several classroom projects were developed using the Classification of Concepts as the "authority" on the appropriateness of content found in these media resources for the consumer class.

Periodicals Reading Assignment

Students are assigned to read, classify, summarize, and evaluate one article from each of six consumer publications with a requirement that the articles selected must represent each of the major sections of the Classification, i.e., decision-making (external factors and personal factors), resource management, and citizen participation.

Objectives of this project are for the students to: identify consumer concepts found in the articles using the Concept Numbering System from the Classification; be aware of the scope of consumer content available in periodicals; write informative summaries of the selected articles; and, evaluate the consumer periodicals as sources of consumer information.

Using the Classification to do a content analysis of the periodical articles helps the students to determine the range of consumer content covered in each publication and which would be appropriate for a specific classification of consumer information.

Newspaper Reading Assignment

Students are assigned to read one article each week from a daily state or national newspaper, classify the content using the Concept Numbering System, and analyze the content for fact or opinion. Objectives of this project include awareness of the variety of consumer information found in newspapers and identification and evaluation of consumer content.

Students may be given a specific classification number from which to select articles. Sharing the articles and discussion of content in class provides an opportunity for the instructor to expand on current consumer issues and to encourage critical thinking as all sides of issues addressed. This individual newspaper reading assignment may be expanded to a class project which encompasses a content analysis of a specific newspaper for consumer content. The Classification provides a ready-made model for this type of content analysis.

Television News

Television news programs may be analyzed following a similar format. Students assigned to watch local and national news programs may identify, classify, and evaluate consumer information.

CURRICULUM PLANNING AND DEVELOPMENT

The Classification of Concepts is a useful tool for the evaluation of consumer/management content for curriculum guides, course content outlines, and consumer textbooks. A table of specifications developed from the concepts in the Classification would provide a comprehensive plan for assessing the breadth and depth of consumer content found in consumer education resources. This classification can provide an invaluable aid in assessing content and developing learning experiences appropriate to the age and maturity of the student and objectives of the course.

Reference

Bannister, Rosella and Charles Monsma (1982), Classification of Concepts in Consumer Education, Cincinnati, OH: South-Western.

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[1] Associate Professor of Home Economics

THE CLASSIFICATION OF CONCEPTS IN CONSUMER EDUCATION:

WHAT NEXT?

R. E. Vosburgh, University of Guelph[1]

THE CURRENT VALUE OF THE CLASSIFICATION

There may be several factors that would cause us to rethink the Classification of concepts. We should be aware of changing knowledge about consumer education, changing or more demanding applications, and, of course, fixing things that, on second thought, aren´t as good as they originally appeared. I don´t think we know anything more about consumer education in any critical area that requires change. Figure 1 in the Classification could incorporate current thinking in consumer decision making. That would make for a more complex model helping researchers but not necessarily educators. We have a more fully organized body of literature on consumer socialization, a major actor in the consumer education process, but that doesn´t require change in the Classification. It only reminds us that the means by which we become equipped for consumer decision making are not always as controllable as we might like. In Canada some think the model puts more emphasis on a confrontational consumer activism than they would like, but even if true, this is minor editing - and I´m not sure that any style of activism is inherent in the model. That the Classification of Concepts works has been atteested to by the preceding three speakers. My experience in teaching and in research, particularly the development of measures of consumer competence, is the same as theirs. I´ve used the model in two developing coutries and found it useful as a starting point for discussion and planning. In these cases, we have selected from the list of headings to produce a simpler version of the model. If the Classification were to be put forward as an internationally useful approach, some editing might be needed - at least to divide concepts into basic and advanced groupings.

SUGGESTIONS FOR CLASSIFICATION II, THE SEQUEL

Before offering some suggestions of my own, let me highlight three suggestions that come from the preceding speakers. First there is a need to capture the research experiences users of the Classification have had to assure that the Classification can be updated or fine tuned as this experience indicates. Second, there may be a need for a short form for student use in class projects or program manager use in helping others see the place of a particular program. Third, the Classification might be developed in computer form to facilitate bioliographic or other taxonomic uses.

Extension to Levels of Performance

The Classification was intended to identify kinds of things in consumer education. Now we need to ask what level of knowledge, skill or comprehenhension is reasonable to expect at different stages in the life cycle or in support of different lifestyles. Even if we can´t immediately define acceptable minimum levels, we should move as quickly as possible to be able to measure performance in each of the areas defined in Classification.

Extension to a Companion Volume

Although a demanding task, there is a need for a companion volume, a Classification of Processes in Consumer Education. There might be four sections, Socialization, School, Shopping Experience and the Special learning projects that are the focus of much of the literature on adult learners the Classification alone is limited in usefulness for designing consumer education programs, but the two volume set would go far to improve the effectiveness of our efforts. Such a volume also would define a number of areas for further research.

Extension to New Users

If the Classification is useful to a wide variety of consumer educators, policy makers, teachers and researchers and if the development of the field of consumer education is served by having a common framework and common terms, ACCI through its consumer education committee and the National Coalition on Consumer Education should promote the widest awareness, understanding and use of the system. South-Western is to be recognized for its support of just this end. However, much more could be done in the way of workshops, shared approaches, say, in the new ACCI journal or in the JCE, and through the state coordinators of the National Coalition.

Extension of Recognition to Bannister and Monsma

All fields, at least early in their histories, seem to have a wide range of conflicting, confusing and occasionally superficially compatible concepts. These fields take a major step forward when someone produces a sense of order from this apparent disarray. Bannister and Monsma have done the field of consumer education a great service in giving us the Classification of Concepts with which to build.

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[1] Professor of Consumer Studies

THE CLASSIFICATION OF CONCEPTS IN CONSUMER EDUCATION: PUBLISHER'S PERSPECTIVE

Carolyn Love, South-Western Publishing Company[1]

South-Western Publishing Company has published and distributed the Classification of Concepts in Consumer Education without charge since 1982, reflecting a major commitment to the field of consumer education. Recommendations for expansion and diversification (e.g., user guides for different settings) will be given serious consideration by South-Western.

"Classi" as it has become commonly known, is very important to South-Western Publishing Company. One in a series of monograph publications, it has been broadly distributed to approximately 20 market segments. These include: education (teachers, teacher educators, students, administrators, curriculum developers, extension staff), government (local, state, and national officials), business and industry (consumer affairs professionals), community settings (program directors), and professional associations. Many populations have benefited from its existence as it has helped to coalesce and clarify the divergent field of consumer education.

This publication receives the same careful attention to detail in writing, editing, designing, packaging, publishing, and marketing as do South-Western's saleable instructional materials. Currently, the focus of the monograph is on improved educational delivery or knowledge distribution, i.e., additional market segments should be receiving it, and how can they best be reached.

Since publication in 1982 and reprinting in 1985 very few changes have been recommended. The amount of extremely positive feedback and the lack of negative feedback attests to the author's careful and thorough attention to the research and writing process. The inevitable question arises, however, of "What next?" The suggestions for expansion and diversification which have been offered during this session provide valuable insight and incentive. They will be seriously considered.

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[1] Marketing Manager School Division

THE CORPORATION AND THE CONSUMER: OBLIGATION OR OPPORTUNITY?

Meredith M. Fernstrom, American Express Company[1]

It's a special treat for me to have a slot on your program this year, for two reasons of purely personal nostalgia. First, because Rachel Dardis invited me. Rachel was my professor and thesis advisor in grad school at the University of Maryland, and was, in fact, the person who steered me into a career in consumer affairs. (I had wanted to major in fashion merchandising!) But she insisted, "Try a course or two...you'll like it." I did, and "the rest," as they say, "is history." Thank you, Rachel!

My second bit of nostalgia has to do with ACCI. One of my first jobs about a year out of grad school was Director of Consumer Education for the District of Columbia Office of Consumer Affairs. I requested and got approval to attend my very first professional development conference (not counting the few afternoons of in-service training I'd had as a home economics teacher). The year was 1974, I believe. The place was Cleveland. And the conference was ACCI! I'm sure that many of you were there, too.

What an impact that conference made on me 14 years ago. Here I was in the same room with people who were among the "stars" of the consumer movement. People whose books and articles I had studied. Names like Arch Troelstrup, Stewart Lee, Gordon Bivens, Robert Herrmann, and many others.

Through the presentations, exhibits, and one-on-one conversations at that conference, I learned how much there was yet to learn in my new-found career, and how eager everyone seemed to be to help bring about that learning. Little did I know then where that path would take me, or that it would bring me back to ACCI for many other conferences, and on this side of the podium 14 years later. Thank you, ACCI!

I don't recall the specific agenda items of the 1974 conference, but my guess is that there would have been little, if any, discussion of the relationship between the corporation and the consumer, or the role of corporate consumer affairs offices. Very few such offices existed then, although they were beginning to spring up in different industries throughout the country. The Society of Consumer Affairs Professionals had been established just a year earlier, in 1973, with about 100 founding members.

For the most part, those early consumer affairs offices were the outgrowth of what might be viewed as the most activist period of the consumer movement: the mid-1960s to mid-'70s. Faced with a seemingly unending stream of consumer protection laws and regulations, many corporations established consumer affairs offices primarily in a "defensive" frame of mind.

Esther Peterson captured the corporate mood of the time in her classic article in the Harvard Business Review of May-June 1974, in which she stated:

> "It has taken business a long time to come to grips with the real meaning of consumerism. When the movement first made itself heard in the 1960s, a lot of time was lost and many regrettable incidents occurred because business leaders misjudged the depth and commitment of its spokesmen. In our complicated and impersonal society, consumers had genuine complaints and their leaders had much to say that was of value to all who are concerned with the equitable operation of our economy."

Esther went on to describe the five distinct ways in which much of the business community generally reacted to the growing consumer awareness:

> "Step 1 When consumer groups make a charge, deny everything. To accept the legitimacy of consumerism as a force in the first place involves a philosophical and emotional wrench.
>
> "Step 2 If denying everything doesn't work, try to discredit whoever made the charge. Again, this is part of the wrenching process. If business is not yet able to accept the sincerity of consumer groups, it questions their motives.
>
> "Step 3 When consumers get no redress and seek legislative action, oppose everything. Business still can't see that reasonable and timely voluntary reform is the best deterrent to restrictive legislation.
>
> "Step 4 If legislation is passed or regulations written, try to 'defang' anything that is enacted by working against implementation and appropriations or getting an opponent of the law appointed to administer it.

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[1] Senior Vice President - Public Responsibility

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> "Step 5 Do something about the problems. After repeated frustration, the awakening comes and business realizes that service is its first obligation if it is to grow and prosper. The best way to cope with the problems is to look at the allegations seriously, give responsible consumer spokesmen a fair hearing, and make a serious effort to do something constructive to correct the shortcoming."

But even for those companies who had reached Step 5 in Esther's depiction in the mid '70s, implementation of their commitment did not always prove effective.

The early consumer affairs offices varied widely in their placement within the corporate structure, in their responsibilities and in their authorities. Many were accused by consumer advocates as being merely "window dressing" or "public relations," a charge which appears to have been true, unfortunately, in some cases.

Many of the individuals holding these positions faced an "identity crisis" of sorts: was their allegiance to the consumer or to the company? This dilemma was often intensified by management's own uncertainty about the role of the consumer affairs office: is it friend or foe? What are its appropriate responsibilities? Is consumer affairs a corporate obligation or an opportunity?

This morning, I'd like to discuss some of the ways we have tackled these questions at American Express, and the factors I feel are necessary for the success of corporate consumer affairs programs.

The fundamental strategic goal of American Express is to be the premier travel and financial services company in the world. One key measure of achieving that goal is to be the most consumer-sensitive company in our industry. Simply stated, we view our consumer affairs policies and programs as a major opportunity through which we can obtain a competitive advantage.

Let me give you a brief overview of how our program is structured, along with some examples of the benefits of these programs to our customers, to the general public, and to our business! The Office of Public Responsibility is part of the Corporate Staff Office, so our responsibilities are corporate-wide and worldwide. We have three functional units:

> First, the Public Responsibility Committees of the Board of Directors and senior management. These committees develop and monitor our policies on issues such as equal employment, minority business, South Africa, privacy, and so on.
>
> Second is the Consumer Affairs Office. It works closely with our business units to monitor consumer issues, develop consumer information, and interact with our network of consumer opinion leaders.
>
> Our third unit is Executive Consumer Relations, which manages the more than 25,000 customer inquiries and complaints that come into corporate headquarters every year. We analyze the data received in this unit to help management pinpoint trouble spots and identify emerging concerns.

Our strategy in managing these units is very basic: We seek out aggressively the opinions of our customers, consumer leaders and the general public. We then look for creative ways to exploit what we know are genuinely mutual interests between consumers and our Company.

Our primary tactics can be summarized as follows:

o Intelligence Gathering

> We tap consumer opinion on an on-going basis through our daily interaction with customers, opinion leaders, government and the media. I should point out that we use the term "consumer leader" very broadly, to encompass many activist groups with political clout: including consumer organizations, Congressional committees and governmental consumer agencies, the media, academia, and groups that represent women, the elderly, ethnic, or other "special interests."

o Analysis

> Our second tactic is analysis. We analyze the feedback we obtain from the public relative to the Company's practices and priorities. This enables us to identify trends and understand what's important for American Express from this mosaic of public opinion.

o Action Programs

> Based on our analysis -- and working closely with our business units -- we develop action programs either to correct problems or to provide new opportunities that put American Express in a leadership position.

Let me turn now to describe a few case studies of how our Consumer Affairs program has worked to the advantage both of consumers and our Company.

1. TRS: Credit Surcharge Bans

In 1984, A Federal ban on credit surcharges expired. This meant that merchants could charge more to the customer paying by credit card, and many began to do so. Our research and that of several other prominent researchers showed that such pricing was not justifiable, that cash-paying customers do not subsidize credit customers. Surcharging merely produced extra profits for retailers at the expense of one segment of their customers. We developed a program to obtain consumer support to reinstate bans on surcharging.

We created awareness of the issue through a mailing to our network of 7,000 media, government and consumer opinion leaders throughout the country. We established a national coalition of consumer organizations, entitled "CAPS" -- "Consumers Against Penalty Surcharges" -- representing 47 states, which worked closely with us to lobby for legislative bans. CAPS members wrote to their legislators, testified at hearings, conducted surveys, and gave speeches and interviews in support of the ban.

Results? CAPS was instrumental in helping achieve state bans on surcharges in New York, California, Texas, Connecticut, Colorado, and Kansas. In all, eleven states now ban credit surcharges, covering 42% of the U.S. population. The willingness of consumer leaders to work with us was based on the fact that we shared a mutual concern: consumers don't want to be surcharged and we don't want our product denigrated by surcharging.

2. IDS: Regulation of Financial Planners

The second case study had to do with an emerging issue for consumers: The question of how financial planners should be regulated. IDS Financial Services, Inc., whom we acquired in 1984, is a leader in the financial planning field.

Here again, we created awareness of the issue through a mailing to our network of media, government and consumer opinion leaders. We provided information on IDS' regulatory proposals, and surveyed their opinions.

Results? As with the surcharge issue, we found a mutuality of interests. Consumer leaders agreed with us on the need for a regulatory structure that will both protect the consumer and enable ethical financial planners to operate without an undue regulatory burden. Many of the consumer leaders agreed to help inform their constituents about this issue through their newsletters, speeches and surveys, and to testify or submit comments for hearings. We also assisted IDS in producing two brochures on this issue: (1) a ConsumerCard on how to choose a financial planner; and (2) a brochure on what to know before you sign a financial planning agreement.

3. AEB Military Bank Division: DOD Contract Renewal

The third example I'll mention concerns a little known part of the Company, the Military Bank Division of American Express Bank, which provides banking services on U.S. military bases outside the U.S. We developed a consumer education program to assist the Division in its contract renewal process with the Department of Defense.

The program, called "Money Talks," included a series of four consumer information workshops for military personnel, focusing on living abroad, credit, financial planning and investments. We pilot-tested the series at several Air Force bases in England and Germany, and then trained the Military Bank's customer service personnel to conduct the seminars.

Results? Management of the Military Bank stated that our activities had a direct bearing on improving their relationships with the military in Europe and in aiding their contract negotiations with DOD.

4. Consumer Education Program

The final action program I'll mention is an on-going campaign that addresses consumers' need for objective information about financial products and services. The Consumer Affairs Office has an extensive program of consumer education program which is a prime example of how the consumer's need for information can be meshed with our business objectives.

Our ConsumerCard series focuses on subjects of documented importance to consumers -- women's credit rights, mail order shopping, how to choose a financial planner, and how to buy insurance -- all of which have direct implications for our marketing objectives.

To date, we have distributed over 2 million ConsumerCards. If you read the NY Times on Monday, April 25, you'll see them offered in a full page ad saluting National Consumers Week.

Our brochure on preventing credit card fraud, called "Whose Got Your Number?" has also been a great success, thanks in part to Dear Abby. A "mention" in her column generated 85,000 requests in only three weeks, ...including one from "Mr. Consumer" himself, Ralph Nader.

Another important part of our consumer education strategy is our extensive schedule of speeches and media interviews in the U.S. and abroad, and testifying on behalf of the Company at the Federal and state level on consumer-related bills. We were also extremely pleased to be a co-sponsor with Chesebrough-Ponds of ACCI's Wingspread conference on consumer research in 1986.

5. International Activities

In the past two years, we have been expanding our horizons, and our activities, outside the U.S. We have found a striking similarity of consumer concerns in many parts of Europe, the Far East and Australia, as the worldwide revolution in financial services continues.

Last year, we convened the first international consumer forum to explore these issues. Thirty-five consumer leaders from 8 countries came together near London to discuss their mutual concerns and strategies for addressing them. We published proceedings from the conference, Money and the Consumer, which we are making available worldwide.

Through our contacts with consumer and government leaders abroad, we are helping shape public policies that reflect our mutual concerns in those countries. I am currently working with consumer organizations in Europe to help ensure that a competitive marketplace and optimum consumer choice is maintained, as the EEC moves towards it 1992 target date for harmonization of the European Community.

Later this month, I'll be speaking at a Federal conference on consumer debt in Australia, as that country explores a growing concern about the level of personal indebtedness and related issues about the marketing of credit. We were invited to describe our consumer affairs activities, as a way to encourage Australian financial institutions to develop similar programs.

Those are a few examples of how we have capitalized on the opportunity of serving the consumer through a concerted, high-profile consumer affairs program. Similar expansion of consumer affairs programs has occurred in many other companies and trade associations, and new offices have been established where they didn't previously exist. Many consumer affairs professionals are expanding their role within their organization; for example, into training, quality improvement and public responsibility, so there are growth opportunities. The consumer affairs profession is being integrated into some non-traditional businesses, as well, such as hospitals and health care organizations.

One measure of this growth can be found in looking at data from SOCAP. Now in its 15th year, SOCAP has almost 1500 members, representing over 800 companies. There are 23 Chapters in the U.S., plus SOCAP organizations in Canada, the United Kingdom and Italy. We're especially pleased to see this expansion of corporate consumer programs internationally. We're also proud of our two Student Activity Groups at Purdue and Cal State Long Beach, and we're hopeful this number will grow.

While all of these numbers aren't yet as high as we'd like, they do represent positive growth in an era in which the tendency might have been the reverse.

That's the good news. But there have also been some losses in recent years. Some companies have eliminated or severely cut back their consumer programs. Mergers and acquisitions have resulted in centralizing consumer functions in some companies. The jury is still out on whether this is better or worse for customers of the various businesses now combined.

What makes the difference then? Why are some programs succeeding while others aren't? Based on my experiences, and what I've heard from many of my colleagues, there appear to be four basic "keys" to the success of corporate consumer affairs programs:

1. Strong corporate commitment
2. Adequate resources
3. Appropriate staffing
4. Constituent support

CORPORATE COMMITMENT

First and most important, the corporation must want it to happen. Senior management, and especially the CEO, must be philosophically committed to seeking consumer opinion and factoring those views into the company's policy decisions, and the design and marketing of its products. The consumer affairs office must be viewed as an integral part of the company's overall marketing philosophy and strategy, and not as a defensive, adversarial or public affairs "add-on."

RESOURCE AVAILABILITY

Secondly, adequate resources must be made available. It's sometimes a challenge to quantify the impact of consumer affairs on the bottom line since many of our activities are qualitative in nature. But we must continue finding ways to demonstrate our bottom-line impact. I'm sure that many of you could be helpful to us in that area.

In addition to staff and budget, other important resources must be made available, including, for example, the access that the consumer affairs professional has within the company. If he or she has ready access to senior management and to the company's information networks, and if that access is used judiciously, it can be one of the most powerful tools for representing the consumer interest.

Another valuable resource is the consumer affairs professional's authorities. While most of us don't make final policy decisions within our companies, many of us do recommend new or revised policies and are frequently responsible for implementing and evaluating them. Authorities of this nature need to be clearly spelled out and made known throughout the company.

For instance, I serve on the Advertising Review Board of our Travel Related Services Company, which must approve all marketing communications, print and electronic, before they can be produced. This is an important way in which I can directly influence what we say to our customers, and how we say it.

This also illustrates an important fact to bear in mind when evaluating corporate consumer affairs programs: that is, you may not always see direct, tangible results of our actions. When we prevent mistakes or misinformation from occurring, you're not likely to hear about it, but we will have performed one of our most effective and cost-efficient functions, both for the company and for our customers.

PROFESSIONAL QUALIFICATIONS

The third key to success is appropriate staffing of the consumer affairs program: the individual holding the position must be "right" for the job.

Because consumer affairs is still a relatively new profession, it is often defined on a case by case basis within each company. In this regard, SOCAP is providing extensive professional development programs to help clarify the role of consumer affairs managers and enhance our effectiveness.

To me, the most important criteria for a consumer affairs professional is having a strong philosophical commitment to representing the consumer perspective in the corporation. So, I believe it is very useful -- if not essential -- for consumer affairs professionals to have at least some experience outside of business, either in government, consumer advocacy, academia or the media, for example.

CONSTITUENT SUPPORT

This brings me to the final "key" to success. Corporate consumerists want and need the support of our external constituents.

Who are our constituents? Certainly, consumer leaders, government representatives and academicians are among the most important. We look to you to provide the "cutting edge" perspective on issues that may not yet be widely known by the general public, to give us additional insights from your more studied analyses of the issues. Another important opportunity for alliance is through internships -- for students and faculty -- both of which we have used successfully.

Our customers are also a major constituency. On some issues, your views and their's may not always agree. Our job is to try to fairly weigh and represent all such opinions. We also must acknowledge the many other "special interests" the company must serve: its shareholders, employees, community organizations, business partners and so on. We must ensure that our focus on the consumer perspective is represented clearly and effectively as management weighs the many factors that go into its decisions.

I applaud the growing list of consumer organizations, universities, and government agencies that are entering into cooperative relationships with corporate consumer affairs offices. ACCI is itself forging many alliances in this regard. I believe that such collaboration can occur not only without compromising either organization, but to our mutual benefit, as well as to that of the consumer.

SUMMARY

Corporate consumer affairs programs have accomplished a great deal in a relatively short time, but there is still much room for growth and improvement. It should be our collective goal that all companies, large and small, will recognize and seize the opportunity to serve the consumer's interest. Ultimately, that will be the best -- if not the only -- way business can serve its own interests.